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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN C. HARVEY
and JAMES W. CUDDIHY

Appeal 2007-1837
Application 08/470,571
Technology Center 2600

Decided:[1] March 20, 2009

Before LEE E. BARRETT, JAMESON LEE, and MARK NAGUMO, *Administrative Patent Judges*.

BARRETT, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the final rejection of claims 56-58, 60-63, 65-74, 80, 81, 84, 85, 87, 89-91, 93-95, 98, 100, 102, 103, 106-109, and 183-197, which are all the pending claims. We have jurisdiction pursuant to 35 U.S.C. § 6(b).

An oral hearing was held on December 1, 2007.

We affirm-in-part.

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[1] The two month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

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STATEMENT OF THE CASE

Related applications and patents

The present Application 08/470,571, entitled "Signal Processing Apparatus and Method," was filed June 7, 1995. The application is a continuation of Application 08/113,329, filed August 30, 1993, which remains pending and is a continuation of Application 08/056,501, filed May 3, 1993, now Patent 5,335,277, issued August 2, 1994, which is a continuation of Application 07/849,226, filed March 10, 1992, now Patent 5,233,654, issued August 3, 1993, which is a continuation of Application 07/588,126, filed September 25, 1990, now Patent 5,109,414, issued April 28, 1992, which is a continuation of Application 07/096,096, filed September 11, 1987, now Patent 4,965,825, issued October 23, 1990, which is a continuation-in-part of Application 06/829,531, filed February 14, 1986, now Patent 4,704,725, issued November 3, 1987, which is a continuation of Application 06/317,510, filed November 3, 1981, now Patent 4,694,490, issued September 15, 1987. Additionally, U.S. Patent 5,887,243 has issued from an application with an identical disclosure to the instant application and a claim of priority to the above chain of applications. Each of the patents is involved in reexamination proceedings.

Appellants' invention

The claims are directed to methods of controlling a video presentation at a receiver, which are illustrated using the "Wall Street Week" example. At the program-originating television station, a series of control instructions is generated, embedded sequentially in digital form on lines of the vertical

interval of the television signal, and transmitted via an intermediate transmitter to one of a plurality of receivers (Spec. 20-22).

Figure 1 of the present application is reproduced below.

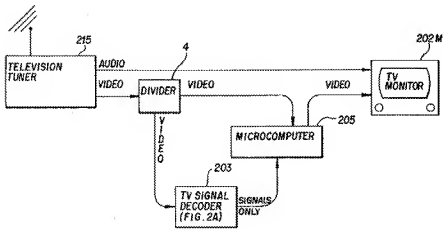

FIG. 1

Figure 1 shows a video/computer combined medium subscriber station (receiver). The station receives the television broadcast transmission at television tuner 215. The tuner 215 outputs conventional audio and composite video transmissions. The audio transmission is inputted to TV monitor 202M. The video transmission is inputted to video transmission divider 4 that splits the transmission into two paths: one is inputted continuously to TV signal decoder 203 and the other to microcomputer 205. TV signal decoder 203 receives a composite video transmission and detects the digital information embedded therein and converts the digital information into digital signals that microcomputer 205 can receive and process and that can control the operation of microcomputer 205.

Microcomputer 205 can store signals from the decoder 203, generate computer graphic information, combine graphic information onto the video information of the transmission by known graphic overlay techniques, and output the combined information to a TV monitor 202M. *See* Spec. 19.

The combined medium "Wall Street Week" example is illustrated by Figures 1A, 1B, and 1C reproduced below.

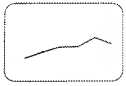

FIG. 1A

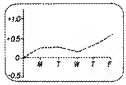

FIG. 1B

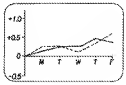

FIG. 1C

Figure 1A shows an example of a computer generated graphic of the subscriber's stock portfolio as it would appear by itself on the face of a television monitor. Figure 1B shows a studio generated graphic displayed on the face of a television monitor. Figure 1C shows an example of the graphic of Figure 1A overlaid on the graphic of Figure 1B.

The program "Wall Street Week" is transmitted with embedded information and instruction signals. The microcomputer 205 is programmed to hold a portfolio of the viewer's stocks. The microcomputer 205 may contact a remote data source over a telephone line to determine the current value of the stocks in the portfolio. Microcomputer 205 is preprogrammed to receive signals from the decoder 203 and to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission (Spec. 21). A first combining synch command signal causes computer 205 to load and run the program set instruction set transmitted in the information segment of the signal (*id*. at 23). Under control of the program instruction set, the computer 205 calculates the performance of the subscriber's stock portfolio and constructs a graphic image of that performance as shown in Figure 1A (*id*. at 24-25). A second combining synch command causes the computer 205 to combine the Figure 1A information with the Figure 1B information and transmit the combined information to monitor 202M (*id*. at 90). A third combining synch command causes computer 205 to cease combining and transmit only the received composite video transmission to the monitor 202M. The combining process is described at Specification 25-26.

The claims

Claim 187 is illustrative:

187. A method of outputting a video presentation at a receiver station, said method comprising the steps of:

receiving at least one information transmission at said receiver station, said at least one information transmission including a first discrete signal and a second discrete signal;

detecting said first discrete signal and said second discrete signal in said at least one information transmission;

passing said detected at least one first discrete signal and said second discrete signal to at least one processor;

organizing information included in said at least one first discrete signal with information included in said second discrete signal to provide an organized signal at said receiver station;

generating an image by processing at least one user specific subscriber datum, said at least one user specific subscriber datum being stored at said receiver station prior to said step of organizing and based on information supplied by a user of said receiver station; and

outputting said video presentation to said user based on said organized signal, said video presentation comprising, firstly, a video image and, secondly, a coordinated display using said generated image and said video image.

The references

Zworykin	US 2,757,226	Jul. 10, 1956
Bart	US 4,218,698	Aug. 19, 1980
Kirschner	US 4,253,157	Feb. 24, 1981
Marti	US 4,290,062	Sep. 15, 1981
Harvey	US 4,694,490	Sep. 15, 1987
Diederich	DE 2,356,969	May 22, 1975
Germany	GB 959,274	May 27, 1964
Millar	GB 1,370,535	Oct. 16, 1974
Yoshino	GB 1,405,141	Sep. 3, 1975
Betts	GB 1,556,366	Nov. 21, 1979
Oono	JP 55-28691	Feb. 29, 1980

J.P. Chambers, *CEEFAX – The generation, distribution and transmission of a National Teletext Service*, IEE Electronics Division, Colloquium on Broadcast and Wired Teletext Systems – CEEFAX, Oracle, Viewdata, Tuesday, 13 Jan. 1976 ("Chambers").

G.O. Crowther et al., *Teletext Receiver LSI Data Acquisition and Control*, IEE Electronics Division, Colloquium on Broadcast and Wired Teletext Systems – CEEFAX, Oracle, Viewdata, Tuesday, 13 Jan. 1976 ("Crowther").

J. Hedger and A. Warburton, *Telesoftware – Value Added Teletext*, Viewdata '80, First World Conference on Viewdata, Videotex & Teletex, 26-28 Mar. 1980 ("Hedger"), *reprinted* in IEEE Transactions on Consumer Electronics, Vol. CE-26, August 1980, pp. 555-567.

E.C. Sedman, *The use of MicroCobol for Telesoftware*, Mar. 1980, pages 399-411 ("Sedman").

E.O. Tunmann and J.F. Roche, *Microprocessor for CATV Systems*, Cable 78, National Cable Television Assoc., 27th Annual Convention, Apr. 30-May 3, 1978, pages 70-75 ("Tunmann").

George Young and M.W.S. Barlow, *The Automation of Small Television Stations*, Journal of the SMPTE, Vol. 80, Oct. 1971, pages 806-811 ("Young").

The rejections[2]

Indefiniteness

Claims 56, 80, and 84, and all claims depending thereon (claims 57, 58, 60-63, 65-74, 81, 85, 87, 89-91, 183-186), stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as their invention. (Sec. E-2, Final Rej. 58; Sec. R1, Ans. 13.)

Anticipation

Claim 187 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Oono. (Sec. E-4, Final Rej. 64; Sec. R27, Ans. 58.)

Claims 188, 189, and 191-197 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Oono. (Sec. E-5, Final Rej. 67; Sec. R28. Ans. 62.)

Claim 93 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Oono. (Sec. E-6, Final Rej. 67; Sec. R29, Ans. 63.)

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[2] Independent claims are shown in bold. The locations of the separately discussed rejections in the Final Rejection and the Examiner's Answer are in parentheses.

Claims 94, 95, 100, 102, 103, and 106-109 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Oono. (Sec. E-7, Final Rej. 68; Sec. R30, Ans. 63.)

Claim 56 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Oono. (Sec. E-8, Final Rej. 68; Sec. R31, Ans. 64.)

Claims 57, 58, 60-63, 65-72, and 74 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Oono. (Sec. E-9, Final Rej. 69; Sec. R32, Ans. 65.)

Obviousness[3]

Claims 187, 195, and 196 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Crowther and Bart. (Sec. E-18, Final Rej. 86; Sec. R2, Ans. 24.)

Claims 188-191, 193 and 194 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Crowther and Bart. (Sec. E-24, Final Rej. 93; Sec. R3, Ans. 26.)

Claims 93, 107, and 108 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Crowther and Bart. (Sec. E-30, Final Rej. 95; Sec. R4, Ans. 27.)

[3] All obviousness rejections based on "CBS/CCETT North American Broadcast Teletext Specification (Extended Antiope)" having a date of May 20, 1981, on the cover "have been withdrawn because, as argued by the appellant, the examiner has been unable to verify/establish a publication date for said document" (Ans. 4).

Claims 94, 95, 98, 100, 103, and 106 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Crowther and Bart. (Sec. E-31, Final Rej. 95; Sec. R5, Ans. 27)

Claims 187, 195, and 196 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Betts and Bart. (Sec. E-17, Final Rej. 84; Sec. R6, Ans. 28.)

Claims 188-191, 193, and 194 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Betts and Bart, further in view of Crowther. (Sec. E-25, Final Rej. 93; Sec. R7, Ans. 29.)

Claims 192 and 197 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Betts and Bart, further in view of Oono. (Sec. E-26, Final Rej. 94; Sec. R8, Ans. 30.)

Claims 93, 107, and 108 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Betts and Bart. (Sec. E-27, Final Rej. 94; Sec. R9, Ans. 31.)

Claims 94, 95, 98, 100, 103, and 106 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Betts and Bart. (Sec. E-28, Final Rej. 94; Sec. R10, Ans. 31.)

Claims 102 and 109 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Betts and Bart, further in view of Oono. (Sec. E-29, Final Rej. 95; Sec. R11, Ans. 31.)

Claim 56 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Kirschner and Bart. (Sec. E-15, Final Rej. 80; Sec. R12, Ans. 32.)

Claims 57, 58, 60-63, 65-74, and 89-91 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kirschner and Bart. (Sec. E-16, Final Rej. 82; Sec. R13, Ans. 34.)

Claim 84 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Millar and Marti. (Sec. E-19, Final Rej. 88; Sec. R14, Ans. 36.)

Claims 85, 87, and 183-186 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Millar and Marti. (Sec. E-20, Final Rej. 90; Sec. R15, Ans. 38.)

Claims 187, 191, 195, and 196 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Millar and Marti. (Sec. E-21, Final Rej. 91; Sec. R16, Ans. 39.)

Claims 188-190, 193, and 194 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Millar and Marti. (Sec. E-22, Final Rej. 91; Sec. R17, Ans. 39.)

Claims 80 and 81 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Millar and Marti. (Sec. E-23, Final Rej. 91; Sec. R18, Ans. 40.)

Claim 80 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Diederich, Germany, and Chambers. (Sec. E-32, Final Rej. 96; Sec. R19, Ans. 41.)

Claim 81 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Diederich, Germany, and Chambers. (Sec. E-33, Final Rej. 98; Sec. R20, Ans. 44.)

Claim 80 stands rejected under 35 U.S.C. § 103(a) as unpatentable over conventional television configurations and Young and Tunmann and Bart. (Sec. E-37, Final Rej. 108; Sec. R21, Ans. 44.)

Claim 56 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Hedger and Sedman and either one of Yoshino or Bart. (Sec. E-11, Final Rej. 73; Sec. R22, Ans. 48.)

Claims 57, 58, 60-63, 65, 66, 73, and 89-91 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hedger and Sedman and either one of Yoshino or Bart. (Sec. E-12, Final Rej. 76; Sec. R23, Ans. 52.)

Claim 93 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Hedger and Sedman and either one of Yoshino or Bart. (Sec. E-13, Final Rej. 77; Sec. R24, Ans. 53.)

Claims 94, 95, 98, 100, 102, 103, 106-109, and 187-197 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hedger and Sedman and either one of Yoshino or Bart. (Sec. E-14, Final Rej. 79; Sec. R25, Ans. 55.)

Claim 73 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Oono and Zworykin. (Sec. E-10, Final Rej. 72; Sec. R26, Ans. 56.)

Obviousness-type double patenting

Claims 56-58, 60-63, 65-74, 89-91, 93-95, 98, 100, 102, and 187-197 stand rejected under the judicially created doctrine of obviousness-type double patenting over claims 9-13 of U.S. Patent 4,694,490. (Sec. E-43, Final Rej. 126; Sec. R33, Ans. 68.)

DISCUSSION

Teletext and videotex background

Many of the references involve "teletext" or "videotex (or viewdata)." As a background description of teletext, we refer to the CBS "Petition for Rulemaking" filed with the Federal Communications Commission (FCC) on or about July 29, 1980 (CBS Petition papers) discussed in our opinion in Appeal 2008-4228 in Reexamination Control 90/006,536. The CBS Petition papers consist of five documents, but we refer only to the description of teletext in the fifteen-page CBS "Petition for Rulemaking."

The CBS "Petition for Rulemaking" petitions the FCC for issuance of rules that would allow television broadcast licensees to transmit "teletext." Teletext is described as follows:

> Teletext is the generic term for systems that transmit alphanumeric information (letters, numbers, characters) to the home television receiver. The information is sent by special data signals transmitted simultaneously with the normal television picture or in lieu of picture information. Equipped with a special decoder, a television receiver can extract and translate that information to appear as letters, numbers and graphics on the television screen. Thus, the viewer has access to an electronic "magazine." With the use of a hand-held control unit, much like a small calculator, the viewer can select from hundreds of "pages" of teletext information. Teletext is an interrogative service. Viewers can request any page at any time in the sequence, and the page stays on the screen as long as the user wants.

Petition 2.

Teletext operation is further described as follows:

> Simply stated, teletext operates by converting pages of information into electronic, digital impulses. All of these pages of

> information are then superimposed upon a standard television signal and broadcast at a high rate of speed. After transmission of the complete set of pages, the cycle repeats. Each frame or page contains a unique number ("header") which permits viewer to access a specific page.
>
> A viewer "calls up" a page by pressing numbers on a key pad (as in a hand-held calculator) associated with the teletext decoder. The decoder then searches the continuous stream of information, singles out the specified page, and displays it on the viewer's television screen.

Petition 5.

Teletext was a one-way service. Pages were sent continuously in repeating cycles by digital signals superimposed on a broadcast or cable television signal and the user selected one of the pages to be displayed on a television. "Videotex" (alternatively called "viewdata") was a two-way interactive service for information retrieval using the telephone network. Subscribers would request data using an input device and receive the requested data (usually pages of text) over the telephone line in a computer-like format to be displayed on a television. A variation, sometimes called "interactive teletext," allowed users to request data from a station over a telephone line and the requested pages would be transmitted to the user's terminal using teletext, i.e., data superimposed on a television signal, instead of the telephone line; the particular user terminal was determined by an address sent with the data. Teletext is described in Crowther, Hedger, Bart, Betts, Marti, Millar, and Chambers; videotex is described in Sedman and Kirschner; and interactive teletext is described in Oono.

Claim interpretation

Proper claim interpretation necessarily precedes a determination of patentability. *See Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997) ("Implicit in our review of the Board's anticipation analysis is that the claim must first have been correctly construed to define the scope and meaning of each contested limitation.").

"User specific"

Appellants argue that "[t]he term 'user specific data' (and its variants 'data specific to a user' and 'user specific subscriber datum') should properly be interpreted to mean data that relates to a particular receiver station or to the user or users of that receiver station, and which may be, but does not necessarily have to be unique to that particular station or users" (Br. 18-19). As disclosed, "user specific data" (claims 56 and 84), "data specific to a user" (claim 80) or a "user specific subscriber datum" (claims 93 and 187) corresponds to a user's portfolio of stocks (Spec. 21). Appellants argue that the Examiner errs in interpreting "user specific data" as broad enough to include user requests for teletext or videotex data because the selection data does not relate to a particular user (e.g., Br. 18-24, 29).

The Board entered a decision on June 30, 2008, in Appeal 2007-4044, Reexamination Controls 90/006,697 and 90/006,841 (merged) for reexamination of Patent 4,704,725, and Appeal 2008-0334, Reexamination Control 90/006,800 for reexamination of Patent 4,694,490 ("Decision"). A decision on rehearing was entered December 18, 2008 ("Reh'g Decision"). We incorporate these decisions by reference and adopt the analysis of "user

specific" which concludes:

> The term "user specific" is broad enough to read on any information (or signal) that reflects something personal about a particular user, such as property ownership[] or capabilities, and implies no restriction on the number of users to whom the information (or signal) can be considered to be personal.

Decision 41, as modified by the decision on rehearing which eliminated the terms "interests" and "preferences" where the bracket is shown, Reh'g Decision 12. Although the present application has a much longer Specification than the '725 and '490 patents in that opinion, the term "user specific" data is not defined. "User specific" data does not require that the information be "unique" or "personal" to the user. Decision 37-40. Nor does "user specific" data require any particular kind of data, such as numerical data as opposed to control data. We do not see how the ordinary interpretation of "user specific" data limits the term to data that "relates to a particular receiver station or to the user or users of that receiver station," as argued. Therefore, we conclude that any data entered by a user (subscriber) at a receiver station is "user specific data" because that data is personal to the user even if other users can enter the same data.

However, just because "user specific data" taken alone is broad enough to include any data entered by a user does not imply that other limitations using the "user specific data" are met. For example, we refer to the interpretation of "generating an image by processing at least one user specific subscriber datum" in the anticipation rejection of claim 187 over Oono, *infra*, which states how the "user specific data" is used.

"Locally generated"

The Examiner finds that teletext systems produce "locally generated images" because a character generator at the receiver converts teletext digital data into images (Sec. C-3, Final Rej. 32-34; Sec. E-2, Final Rej. 58-61). The Examiner cites several references discussing that images of teletext data are generated locally at the decoder (Final Rej. 33-34, 60-61).

Appellants argue that the Examiner fails to properly interpret the claim term "locally generated" to distinguish over videotex and teletext. It is argued that "'[l]ocally generated' should be interpreted to mean 'brought into existence at a particular location'" (Br. 24). It is argued (*id.* at 25) that pages of teletext data are not generated locally, as evidenced by Lucas, U.S. Patent 4,885,775, which states that "conventional teletext systems do not provide for the addition of locally generated information by the receiver which might change the meaning or interpretation of the transmitted information" (col. 2, ll. 9-13). It is argued that the present Specification describes overlays in which content is determined at the receiver station, which is referred to as locally generated (Br. 25). "In contrast, the teletext references show that the content of conventional teletext is brought into existence at an origination station and instructions embodying the content are transmitted to the receiver. The teletext generators at the receivers simply reproduce the content generated at the origination station." *Id.*

The Examiner does not contest Appellants' definition that "locally generated" means "brought into existence at a particular location." Thus, we adopt this definition.

The Examiner points out that claims 56, 80, and 84 recite a "locally generated image," not "locally generated information." The Examiner states that "neither applicant's current arguments, nor the 'locally generated' limitations of the instant amended claims, are directed to the locally generated information content of the recited 'locally generated' images" (Ans. 15). The Examiner finds that teletext systems produce "locally generated images" because a character generator converts teletext digital data into images for superposition onto the television video (*id.* at 13-17).

We agree with the Examiner that Appellants' arguments about "locally generated" fail to note that claims 56 and 84 recite a "locally generated *image*" and *not* "locally generated *information*." Claim 80 recites a "locally generated portion of said video presentation" and does not require that information be locally generated. Thus, Appellants argue limitations which are not in the claims. The Examiner does not dispute that teletext data or information is generated at a source and is not generated locally. However, the "locally generated image" is the image created from data as it exists before it is displayed (since there is a subsequent step of display) and does not imply that the data from which the image is created is generated locally. We agree with the Examiner that teletext systems produce "locally generated images" because a local character generator converts digital teletext data into character images to be displayed on the television screen as a pattern of dots--the character image does not exist until it is generated at the receiver. Character generators are described, for example, in Millar and Yoshino.

However, there are limitations using the "locally generated image" which must be considered. For example, we refer to the interpretation of

"executing processor instructions to process said remotely originated data and said user specific data at said video apparatus in order to generate said locally generated image" in the anticipation rejection of claim 56 over Oono, which states how the locally generated image is generated.

"Organizing information"

Independent claims 93 and 187 recite "*organizing information* included in said at least one first discrete signal *with information* included in said second discrete signal *to provide an organized signal* at said receiver station" (emphasis added). Claim 84 contains similar language. Dependent claim 65 recites "*organizing first information* included in a first discrete signal *with second information* included in a second discrete signal in order to enable said video apparatus to process at least *one organized signal* which comprises said first information and said second information" (emphasis added).

The Examiner states that the claims do not specify whether the term "with" means that information from the second discrete signal is used to organize the information from the first discrete signal or that information from the first and second signals is merely organized along with each other (Final Rej. 62). The Examiner finds that either interpretation reads on conventional teletext, because teletext data is transmitted as a plurality of data packets and "[t]o recover the information that was needed to display a given one of the transmitted pages, page information from the respective plurality of transmitted packets had to be extracted and 'organized' together

to provide the complete set of display instructions that was needed to generate the displayable image" (*id.*).

Appellants argue that the Examiner fails to properly interpret the claim term "organize." It is argued that "'[o]rganize' should be construed to mean 'to arrange in a desired pattern'" (Br. 26), in accordance with a definition from *The American Heritage Dictionary*. It is argued that the Specification describes that signals may convey information in discrete words which the receiver must assemble into units, such as one complete processor instruction (Br. 26), e.g., "[b]uffer/comparator, 8, receives said signals from said decoders and other signals from other inputs and organizes them in a predetermined fashion" (Spec. 30, ll. 7-9). It is argued that the Examiner errs in interpreting "organize" to read on arranging packets of teletext data to form a "page" of data because "packets of data received in a conventional teletext system are not necessarily arranged in a desired pattern to form pages" (Br. 27) and "[t]he Examiner has not established that all teletext decoders must organize packets into pages of data" (*id.*).

The Examiner does not contest Appellants' definition that "organize" should be construed to mean "to arrange in a desired pattern." Thus, we adopt this definition.

We first look to see what "organizing information" in a plurality of "discrete signals" to provide an "organized signal" corresponds to in the disclosure. The Specification describes transmitting information in the same way as teletext data in the prior art, as digital data encoded in the vertical interval of the television signal (e.g., Spec. 21, ll. 14-17). We interpret each

of the "first discrete signal" and "second discrete signal" to be a binary digit (bit) (i.e., a zero or one), or sequences of bits (e.g., eight bits is a "byte" or "word"), which contain information. The Specification states:

> In determining the composition of signal information in the preferred embodiment, the present invention must take into account the fact that most computer systems communicate information in signal words that are of a constant binary length that exceeds one bit. At present, most computer information is communicated in so-called "bytes," each of which consists of eight digital bits. Failure to recognize this fact could result in incomplete signals and/or in erroneous processing in signal information.

Spec. 54, l. 31, to 55, l. 4. "As one example, Fig. 2I shows the information of Fig 2E organized in eight-bit bytes." *Id.* at 56, ll. 18-19. This indicates that information is "organized" by combining individual bits and aligning them to be recognized as bytes. Thus, we interpret "*organizing information* included in said at least one first discrete signal *with information* included in said second discrete signal *to provide an organized signal* at said receiver station" in claims 93 and 187 to mean that two or more bits (discrete signals) are "organized" by being arranged in a buffer or register to create a byte of data that is recognized by a computer as a character of data or a program instruction. Each bit has one bit of information. The claims do not preclude more than two discrete signals from being organized, for example, organizing eight bits into a byte. The byte represents a character of data, a control code, or part of a program instruction and is the "organized signal." This is consistent with Appellants' definition of "organize" to mean "to arrange in a pattern." If the individual bits of teletext data (discrete signals)

are not properly "organized," the computer will not recognize them for what they are intended to be. The Examiner's interpretation that "organizing information" is broad enough to read on decoding and arranging teletext data into bytes and into pages of teletext data is consistent with this interpretation. However, it is simpler to think of "organizing information" as putting bits (discrete signals) together to form a group of bits (e.g., a byte) that is properly recognized by the computer.

As a simple example, assume that the receiver receives two bytes of data, A and B, which could represent characters of data, e.g., the letters "A" and "B," a control code, or a part of a program instruction. Each byte consists of eight bits, i.e., byte A consists of bits A1, A2, . . . , A8, and byte B consists of bits B1, B2, . . . , B8. These bits arrive from the decoder in the order they were transmitted as shown below from left to right.

A1 A2 A3 A4 A5 A6 A7 A8	B1 B2 B3 B4 B5 B6 B7 B8
Byte A	Byte B

The computer must assemble the first eight bits as the byte A and the second eight bits as the byte B (as shown by the vertical lines). If the computer mistakenly assembles bits A2-A8 from byte A and B1 from byte B as a byte of data, the data is not likely to be what was intended and therefore meaningless. Computers store the bits in memory starting at a specific address so that every eight bits is interpreted correctly as a byte of data. "Organizing" information in discrete signals into an "organized signal" requires only that the bits (discrete signals) are stored in the memory of the computer to be recognized as a byte of data (organized signal).

"Organizing" does not require that bits are rearranged out of the order in which they are received.

"Video presentation comprising . . . a coordinated display"

Claims 93 and 187 recite "outputting said video presentation to said user, said video presentation comprising, firstly, a video image and, secondly, a coordinated display using said generated image and said video image." We interpret this limitation to mean that, first, a video image is presented, and then subsequently in time, secondly, a coordinated display is presented. As disclosed, the coordinated display corresponds to the "Wall Street Week" graph example in Figures 1B and 1C where the generated image overlays the video image to create a combined image. However, "a coordinated display *using* said generated image and said video image" does not require that the information in the generated image and the video image are coordinated, but only requires that the "display" is coordinated "using" the images. We agree with the Examiner's interpretation that this limitation is met by the display of generated teletext data images superimposed on a video image even though the images are unrelated to each other, as discussed in the rejection of claim 93 over Hedger and Sedman in view of either Yoshino or Bart.

Indefiniteness

Claims 56, 80, and 84, and all claims depending thereon (claims 57, 58, 60-63, 65-74, 81, 85, 87, 89-91, 183-186), are rejected under 35 U.S.C.

§ 112 ¶ 2 as indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as their invention.

We reverse.

"Locally generated"

The Examiner concludes that claims 56, 80, and 84 and claims dependent therefrom are indefinite because Appellants disagree with the Examiner's interpretation that "locally generated" images is broad enough to read on images generated by a character generator from teletext data (Final Rej. 58-61).

Appellants argue that their interpretation of the term "locally generated" as "brought into existence at a particular location" is justified by the intrinsic and extrinsic evidence and that the term "locally generated" is clear and definite (Br. 14). Appellants argue that the fact that they disagree with the Examiner's interpretation that "locally generated" is met by teletext "is not a basis to conclude that the claims are indefinite" (Reply Br. 10).

Disputes about claim scope should not be interpreted as indefiniteness. It is only when the scope of the claim cannot be determined that the claim is properly held to be indefinite. The Examiner does not conclude that Appellants' definition of "brought into existence at a particular location" is erroneous or is not the broadest reasonable interpretation. We agree with Appellants' definition of the term "locally generated" and conclude that it is not indefinite. However, we agree with the Examiner that a "locally generated image" broadly reads on images generated by a character generator from teletext data. The rejection of claims 56, 80, and

84, and claims depending thereon, under § 112 ¶ 2 on the ground that "locally generated" is indefinite is reversed.

Functional descriptions

The Examiner concludes that claims 80 and 84 and claims dependent therefrom are indefinite because it is not clear whether the functional descriptions in the claims are part of the method.

Claim 84 recites five steps that are performed at a transmitter station. The Examiner states that claim 84 contains "functional descriptions of processing that is 'intended' to occur at the receiver station when the transmitted signals are received thereat" (Final Rej. 61), but that these "steps for performing this 'intended' receiver side processing are never positively recited by the claim" (*id.*). The Examiner concludes that "claim 84 is confusing and indefinite because it is not clear whether the functional descriptions . . . are part of the recited method or whether they should be treated merely as descriptions of intended use" (*id.*). The Examiner makes similar comments for claim 80 (*id.*).

Appellants respond that "the language to which the Examiner objects clearly and unambiguously define what the specified signals are" (Br. 15). "Thus, while the functional descriptions are not steps of the methods recited in claims 80 and 84, the descriptions properly limit the claim because they specify with particularity what is being transmitted." *Id.* It is argued that there is nothing inherently wrong with defining some part of an invention in functional terms (Br. 15-16; Reply Br. 11).

Claim 84 recites a "method of controlling a video presentation at at least one receiver station of a plurality of receiver stations." The claim recites five steps wholly performed at a transmitter including receiving and transmitting first and second discrete signals. While it is somewhat confusing to recite "method of controlling a video presentation at at least one receiver station" when the method steps are to a method of transmitting data at a transmitter station, since the signals transmitted are limited by the functions they perform at the receiver station, the claim is not indefinite. The first and second discrete signals are claimed to be organized in an organized signal (implicitly at the receiver station) which "organized signal instructs the receiver station to one of generate and output said locally generated image for display coordinated with said video." Although this limitation might be construed as a statement of intended use since claim 84 does not recite steps at the receiver station, the functional limitation must be given weight because it limits the signal in claim 84 because the signal must be capable of performing the function. Claim 84 also recites steps performed at the receiver station independently of the method steps at the transmitter, i.e., "said locally generated image being based on user specific data, said user specific data being stored at said at least one receiver station prior to said organizing to provide said at least one organized signal, said user specific data being based on information supplied by a user of said at least one receiver station." These "steps" are not steps of claim 84, but still limit the claim because they define the locally generated image. We conclude that all of the functional limitations in claim 84 limit the claim and

must be considered in the prior art rejection. The indefiniteness rejection of claim 84 and its dependent claims 85, 87, and 183-186 is reversed.

Similarly, the preamble of claim 80 recites a "method of controlling a video presentation at at least one receiver station of a plurality of receiver stations," but the body of the claim is directed to "transmitting a signal from an origination transmitter to a remote intermediate transmitter station" and "transmitting at least one control signal from said origination transmitter to a remote intermediate transmitter station," which steps have nothing to do with actually controlling the receiver station. Nevertheless, the "signal" functions at the receiver station "to instruct said at least one receiver station" and the "control signal" functions "to control communication of said video and said instruct signal to said at least one receiver station," which limit the signals by what they do. All of the functional limitations in claim 80 limit the claim and must be considered in the prior art rejection. The indefiniteness rejection of claim 80 and its dependent claim 81 is reversed.

Anticipation

Claims 56-58, 60-63, 65-72, 74, 93-95, 100, 102, 103, 106-109, 187-189, and 191-197 are rejected under 35 U.S.C. § 102(b) as anticipated by Oono.

We reverse.

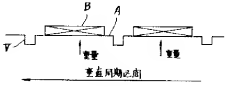
Oono

There are two translations of Oono. We refer to the translation by "FLS, Inc." and to the page numbers at the bottom of the pages. Oono is discussed in detail to provide a feel for the issues.

Oono describes a home terminal for receiving three kinds of data: (1) software program data, such as a video game; (2) picture data, such as figures or letters, to be superimposed onto the external television picture; and (3) picture data to be displayed by itself as one screen of data (Oono 5).

The data is transmitted as shown in Figures 1 and 2 reproduced below.

第 1 図



第 2 図

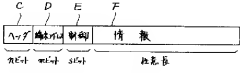


Figure 1 shows a data signal (B) superimposed on a vertical sync section of a video signal (A) (Oono 4). Figure 2 shows the data format of the data signal (B). The data format consists of a header (C), a terminal address part (D), a controlling part (E), and an information part (F) (*id.*). The controlling part (E) indicates: (1) the length of the information part (F); (2) the type of information (software program data, picture data to be superimposed at the terminal, or one screen of data to be stored in memory); (3) start timing (e.g., whether the service is started upon receiving the software program or after a set delay); and (4) the processing method at the terminal, and whether the output is from (a) the refresh memory, (b) the

external signal (the broadcast or CATV signal), or (c) video from superimposing the refresh memory onto the external signal) (*id.* at 5, 9).

The terminal hardware is shown in Figure 3, reproduced below, annotated to label the elements.

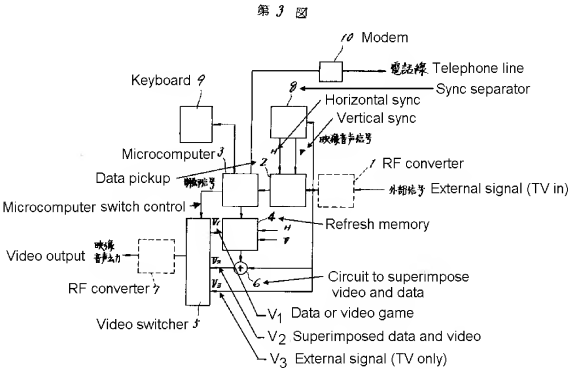


Figure 3 shows the terminal receiving a television signal with a superimposed data signal input from the right as an "external signal," and converted to a base band signal by RF converter 1 (Oono 5-6). The television signal is sent to input V_3 and to sync separator 8 and data pickup 2. Sync separator 8 detects the horizontal (H) and vertical (V) sync signals which are used by data pickup 2 to strip data from the television signal (*id.* at 6, 8). Data from pickup 2 is input to the microcomputer 3 which decodes the data after verifying that the data has been sent to the right

address and stores the data in microcomputer 3's memory (*id.* at 8). Image output from the microcomputer is sent to refresh memory 4, which is a memory that stores digital data from the microcomputer to be displayed on a television screen. Images generated by software and picture data that takes a whole screen is output from refresh memory 4 as signal V_1. Data to be superimposed on the television video is written in a specified location in the refresh memory 4 (*id.*) and circuit 6 superimposes data output from the refresh memory 4 and the video signal (*id.* at 5-6) to create a signal V_2. A video switcher 5 is controlled by a command signal in the data (*id.* at 8) or by keys 14-16 on the keyboard 9 (*id.* at 6-7) to select one of the inputs V_1, V_2, or V_3. (*id.* at 8-10).

When the received data is software data, such as a video game, the microcomputer 3 stores the data at a specified address in its memory, switches switcher 5 to the output V_1 of refresh memory 4, and sets the starting address for the program (Oono 8). The program can be started upon receipt or after a set time and the output from the refresh memory is sent to the television receiver (*id.* at 5). For picture data comprising a whole screen, the microcomputer converts the received picture data into data for the refresh memory 4, transfers it to the refresh memory, and switches switcher 5 to V_1 (*id.* at 9). For data to be superimposed on the television picture, data is written by microcomputer 3 to a specified location in the refresh memory 4, this data is combined with video in circuit 6, and switcher 5 is switched to V_2 (*id.* at 8-9). When switcher 5 is switched to V_3, only the external television signal is output.

Oono describes that the data may be transmitted at a request from the user, an interactive two-way service, or as a one-way service from the station (Oono 2). Oono states:

> By hitting the TEL key (11) of the keyboard (9), the processing circuit (3) forms a data link with the broadcasting station or CATV station, etc. By hitting the registered key (17) followed by the transmitting key (22), the type of video from the station or the transmitting method is requested (requests for the software number or a transmitting method). An external signal such as a broadcasting wave or CATV wave is sent by this . . . .

Id. at 7-8. One skilled in the teletext/videotex art would recognize Oono as interactive teletext: the user requests data over a telephone line and the data is sent back as teletext data superimposed on a television signal rather than over the telephone line as in videotex.

The rejection

The Examiner finds that the teletext packet signals received in Oono include first and second discrete signals, and the data is detected and passed to the microcomputer (Final Rej. 66). The Examiner finds that the step of "organizing information included in said at least one first discrete signal with information included in said second discrete signal to provide an organized signal at said receiver station" corresponds to circuitry for arranging the received signals into a complete image (*id*.). In the step of "generating an image by processing at least one user specific subscriber datum, said at least one user specific subscriber datum being stored at said receiver station prior to said step of organizing and based on information

supplied by a user of said receiver station," the Examiner finds that the "user specific subscriber datum" and "information supplied by a user" correspond to data supplied by a user via the keyboard 9 to request the receipt, and the videotex image is generated "by processing" and is "based on" the user request data (*id.*). The Examiner finds that the "outputting . . . a coordinated display" step corresponds to videotex data superimposed on the television video image (*id.*).

Analysis

Claims 187-189, and 191-197

Appellants' arguments present four issues.

1.

Issue 1: Does Oono teach a "user specific subscriber datum"?

The Examiner finds that "user specific subscriber datum" reads on user specific requests for teletext information and that "said at least one user specific subscriber datum being stored at said receiver station prior to said step of organizing and based on information supplied by a user of said receiver station" is met because data input by the user inherently must be stored at the computer or it would instantly be lost (Final Rej. 66).

Appellants argue that Oono does not teach the claimed "user specific subscriber datum" because a "'user specific subscriber datum' should be interpreted to mean a datum that relates to a particular subscriber's receiver station or to the user or users of that receiver station. The user input in Oono

is merely a menu selection of the desired content made by each user of Oono's television receiver system." Br. 29.

As discussed in the claim interpretation section, we interpret "user specific subscriber datum" to require no more than data input by a user because that data is specific to that user. The data can be any kind of data, including control data. We agree with the Examiner that the data input by the user must be stored, even if only temporarily, by the computer 3. Here, the request for data must occur before any step of organizing.

Oono teaches a "user specific subscriber datum," as interpreted.

2.

Issue 2: Does Oono teach "organizing information included in said at least one first discrete signal with information included in said second discrete signal to provide an organized signal at said receiver station"?

The Examiner finds that information in the discrete signals is "organized" by being arranged in a complete image (Final Rej. 66).

Appellants argue:

> It is not an inherent or necessary operation of the Oono receiver to arrange the received data in a desired pattern. The mere storage of received digital data in memory as it is received fails to teach such arrangement. In Oono, "the data reception processing is executed so that the succeeding data is entered into memory." Oono, p. 9. Oono includes no teaching that the digital data is not merely transmitted in a serial fashion and placed in RAM (4) in the order it is received. All that is required to receive and use such data is to be able to detect it. No arrangement in any pattern is required to give meaning to the data.

Br. 31.

As discussed in the claim interpretation section, "organizing" information in signals to provide an "organized signal" only requires that individual bits are assembled into a group, such as a byte, which is recognized by the computer. The bits of data in Oono are received serially and stored sequentially in the microcomputer's memory: "In the case of software data, it is sequentially stored . . . into the memory of the processing circuit's (3) microcomputer." Oono 8. The computer must organize bits in memory as bytes of computer instructions, i.e., as an "organized signal." Oono also recognizes each group of bits in the data format of the data signal (B) in Figure 2 as an "organized signal." Oono describes that "[t]he data decoded is always inputted to the processing circuit's (3) microcomputer from the data pickup circuit (2) shown in Figure 3" (*id.* at 9) and, if the addresses match, "the succeeding data is entered into memory" (*id.*). "Next, the processing is performed according to information such as data length, type of information, start timing, and video output method inputted into the controlling part (e)." *Id.* Also, where data represent data to be superimposed, groups of bits represent characters of data (letters or numbers) or control data (to control color, background, or flashing) and are "organized signals."

Oono teaches "organizing information included in said at least one first discrete signal with information included in said second discrete signal to provide an organized signal at said receiver station."

3.

Issue 3: Does Oono teach "outputting said video presentation to said user based on said organized signal"?

Claim 187 is similar to claim 93 with the exceptions that claim 93 recites "generating an image *in response to said organized signal* by processing at least one user specific subscriber datum," whereas claim 187 does not have the emphasized language, and claim 187 recites "outputting said video presentation to said user *based on said organized signal*," whereas claim 93 does not have the emphasized language. Appellants argue in connection with claim 93 that "the Examiner fails to address how Oono teaches a step of outputting based on an organized signal as set forth in claim 93" (Br. 33). Since this limitation is found in claim 187 and not in claim 93, we address the limitation here.

The limitation of "organizing" information in discrete signals to provide an "organized signal" does not specify the nature of the organized signal, as discussed in the preceding section. However, "outputting . . . based on said organized signal" in claim 187 requires that the organized signal is an instruct-to-output signal and "generating an image in response to said organized signal" in claim 93 requires that the organized signal is an instruct-to-generate signal; compare claim 80 which recites "an instruct signal which is operative . . . to at least one of generate and output a locally generated portion of said video presentation" and claim 84 which recites that the "organized signal instructs said . . . receiver station to one of generate and output said locally generated image." Oono does not teach that the teletext data contains any signal that instructs the receiver to output a video

presentation. The Examiner discusses that teletext data are instructions that determine how the image is generated (e.g., Sec. C-3, Final Rej. 32-34). We do not dispute that teletext data contains commands that control the appearance of the image, such as color and flashing. However, none of the conventional teletext data signals of which we are aware instruct the receiver to generate or display a page; these functions are automatically performed by the decoder. By comparison, the control packet with a reveal bit described in the "CBS/CCETT Specification" (which the Examiner has withdrawn as a reference) is an instruction which causes a caption to be displayed.

Oono does not teach "outputting said video presentation to said user based on said organized signal" as recited in claim 187.

4.

Issue 4: Does the broadest reasonable interpretation of "generating an image by processing at least one user specific subscriber datum" read on generating an image from data sent in response to user selection data?

Examiner states that Oono has circuitry 3 and 4 "for generating a signal representing a videotex image, wherein this image signal generation is obtained by: 1. Processing the 'subscriber specific datum' (e.g. it is the 'subscriber specific datum' that is processed to determine the videotex image that is requested and generated); . . ." (Advisory Action 17-18). The Examiner states that "it is the 'processing' of the inputted request datum by the described teletext system that results in the generation of the specific/requested image at the receiver station" (*id.* at 20).

> Appellants argue:
>
> Oono does not teach that the user's request for data is processed by either CPU (3) or RAM (4) to generate any "videotex" image. . . . The user request for data in Oono that is sent to the headend simply identifies what data is to be transmitted to the end user – the data constituting the request itself is not used to generate the image to be superimposed at the end user station. In contrast, claim 187 requires that the user specific subscriber datum (e.g., information regarding the user's stock portfolio) is actually processed and used to generate the image used in the coordinated display.

Br. 30.

As disclosed, the "at least one user specific subscriber datum" and the "information supplied by a user of said receiver station" correspond to information in the user's stock portfolio which is supplied by the user. The step of "generating an image by processing [the datum]" corresponds to generating an image such as Appellants' Figure 1A by processing the information in the user's stock portfolio, i.e., image is generated directly using the datum or data. The Specification does not describe any other situation which would suggest a broader or different interpretation. The Examiner interprets the limitation more broadly to be met if "generating an image" is in any way based indirectly, on "processing at least one user specific subscriber datum." Thus, the Examiner contends that a user request for specific data (e.g., a picture) is a "user specific subscriber datum," which is "processed" by the receiver and the station to "generate an image."

Although it is a close question of interpretation, we conclude that one of ordinary skill in the art would interpret that "generating an image by processing at least one user specific subscriber datum" requires that the

datum influences the appearance of the image. We agree with the Examiner that the term "user specific subscriber datum," by itself, is not limited to any specific kind of data and does not distinguish over the user's request for image data from the station. We appreciate that the "processing" limitation does not specify how the datum is processed to generate the image, e.g., the datum could be processed in many ways to generate an image of a graph, table, list, etc. However, "generate" is defined as "to bring into existence." *Webster's New Collegiate Dictionary* (G.&C. Merriam Co. 1977). Thus, "generate" requires more than just "select" or "retrieve." *See In re Scroggie*, 170 Fed. Appx. 132, 135 (Fed. Cir. 2006) (nonprecedential) ("The term 'generating page data' means that the page data is 'generated,' not merely 'selected.'"). An "image" is what a person sees when it is displayed (claim 187 recites outputting the image to the user as a separate step); the image can be text or graphics. Thus, the limitation "generating an image by processing at least one user specific subscriber datum" recites how the image is created, "by processing at least one user specific subscriber datum," which we interpret to require that processing the datum influences the appearance of the image. Oono generates an image by processing teletext data sent to the terminal in response to user selection data, not by processing the user selection data. The teletext data itself is not generated by processing user selection data, but is only retrieved from a database, so it cannot be said that the image is generated by indirectly processing the user selection data. Oono does not "generate" an image by processing the user selection data.

The broadest reasonable interpretation of "generating an image by processing at least one user specific subscriber datum" does not read on generating an image from data sent in response to user selection data.

Oono does not teach "generating an image by processing at least one user specific subscriber datum" or "outputting said video presentation to said user based on said organized signal." The anticipation rejection of claim 187, and its dependent claims 188, 189, and 191-197, is reversed.

Claims 93-95, 100, 102, 103, and 106-109

Appellants argue that Oono fails to anticipate claim 93 at least for the reasons set forth for claim 187 (Br. 33). Appellants' argument that the Examiner fails to address how Oono teaches a step of outputting based on an organized signal has been addressed in connection with claim 187 (*id.*).

As discussed in connection with claim 187, we conclude that the broadest reasonable interpretation of "generating an image . . . by processing at least one user specific subscriber datum" does not read on generating an image from data sent in response to user selection data. The anticipation rejection of claim 93, and its dependent claims 94, 95, 100, 102, 103, and 106-109, is reversed.

Claims 56-58, 60-63, 65-72, and 74

Appellants argue that Oono fails to anticipate claim 56 for at least the reasons stated with respect to claim 187 (Br. 34). We conclude that Oono teaches "user specific data" as interpreted in the claim interpretation section.

Claim 56 does not recite "organizing" signals to provide an "organized signal," or "outputting . . . based on said organized signal" as in claim 187.

Appellants also argue that Oono does not teach "executing processor instructions to process said remotely originated data and said user specific data at said video apparatus in order to generate said locally generated image." This limitation requires processing two types of data to generate an image, as for example, the user's stock portfolio data and the stock quotes received from a remote source. In addition, it requires that the processing to generate the image takes place "at said video apparatus." For the reasons stated in the discussion of claim 187, we conclude that the processing limitation requires that the two types of data influence the appearance of the image and find that Oono does not teach processing the user selection data. In addition, Oono does not teach processing the user selection data at the video apparatus to generate an image; the user selection data is sent to the station which returns teletext data. The anticipation rejection of claims 56-58, 60-63, 65-72, and 74 is reversed.

Obviousness

Crowther and Bart

Claims 93-95, 98, 100, 103, 106-108, 187-191, 193-196 are rejected under § 103(a) as unpatentable over Crowther and Bart.

We reverse.

Crowther

Crowther describes a teletext decoder built using LSI (large scale integration) digital chips, which has three distinct sections: incoming signal acquisition, memory, and display (Crowther 1; Fig. 1, p. 4).

Crowther focuses on the signal acquisition section, which has a video processor which extracts teletext data from the incoming video signal and converts it into digital signals for processing (*id.* at 1-2), a control circuit which receives and stores instructions from the user and the teletext transmission (control bits) and controls the decoder actions accordingly (*id.* at 2), and a digital data acquisition circuit which splits the incoming teletext signal into its component parts so that the correct (selected) page is written in a predetermined order into the memory (*id.* at 3).

Crowther states that the "teletext determined instructions include magazine and page selection, timed page, automatic newflash and subtitle operation, clear page, suppress page header and concealed text" (*id.* at 2) and the user options include "display enable to display a preselected page" (*id.*).

Bart

Bart teaches a teletext system for displaying graphics or alphanumeric information on a television receiver (Bart, col. 1, ll. 4-11).

Bart teaches that a "color television receiver, for example, can be arranged to display either normal video information alone in a conventional manner, graphics information alone (e.g., 'video games' or alphanumeric data displays), or mixed video and graphics information (e.g., superimposed subtitles, weather, sports or road traffic information)" (*id.*, col. 1, ll. 12-18).

Bart discloses that the graphics information signals can be provided in a teletext system where graphics and alphanumeric information is transmitted with conventional television transmitting equipment (*id.*, col. 2, ll. 18-37).

The rejection

The Examiner finds that the teletext decoder in Crowther receives discrete teletext signal packets superimposed on a television signal, the packets are detected and passed to a processor, and stored in a RAM where they are "organized" into a "page" of data (Final Rej. 86). Crowther discloses a keyboard for entering a desired teletext page number which the Examiner considers to correspond to a "user specific subscriber datum" (*id.*). The Examiner finds that Crowther's signal acquisition, memory, and display circuitry is "for generating a teletext image by processing the stored user specific subscriber datum that is 'based on' the information entered by the user via input device" (*id.*).

The Examiner finds that the difference between Crowther and the subject matter of claim 187 is that Figure 2 of Crowther does not disclose superimposing the teletext information on the television video, i.e., "a coordinated display using said generated image and said video image," but finds that Bart discloses this was one of three well-known display modes for teletext (*id.* at 87). The Examiner concludes that it would have been obvious to superimpose teletext data over video in Crowther to form a coordinated display in view of Bart (*id.*). In the discussion of claim 93, the Examiner notes that Crowther describes superimposing teletext newsflashes and

subtitles on the incoming video (Crowther 2) and so teaches the outputting limitation (Ans. 27).

Analysis

Claims 187-191 and 193-196

Appellants argue at to claim 187 that Crowther does not teach: (1) a "user specific subscriber datum"; (2) "organizing" discrete signals into an "organized signal"; and (3) "generating an image by processing at least one user specific subscriber datum" (Br. 64-65).

1.

Appellants argue that a "page selection is not a user specific subscriber datum" (*id.* at 64) for reasons discussed in the claim interpretation section and because "[e]very user that views any selected teletext page will input the same selection" (*id.*).

We disagree. As discussed in the claim interpretation section, we conclude that any data entered by a user (subscriber) at a receiver station is a "user specific subscriber datum" because that data is personal to the user.

2.

Appellants argue that "Crowther, like Betts, fails to teach distinct steps of organizing and generating an image. Crowther does not include any details setting forth how any user input, including a selected teletext page number, is used to organize any information" (*id.*).

We find that Crowther teaches "organizing" information in signals into an "organized signal" for the reasons stated in the claim interpretation

section and in the anticipation rejection of claim 187 over Oono. The bits of teletext data in Crowther are "discrete signals" which are "organized" into an "organized signal" when the "page is written in a predetermined order into the memory" (Crowther 3). That is, the bits (discrete signals) are aligned in the memory so that groups of bits form bytes of character data. This corresponds to Appellants' description of "organizing." *See* Spec. 56, ll. 18-19 ("As one example, Fig. 2I shows the information of Fig 2E organized in eight bit bytes."). "Organizing" signals to form an "organized signal" does not require that the organized signal is any particular kind of signal.

Although not expressly argued here, the limitation of "outputting said video presentation to said user based on said organized signal" requires that the organized signal is an instruction to output the video presentation. Crowther does not teach that the teletext data contains a signal that instructs the receiver to output a video presentation. By comparison, the control packet with a reveal bit described in the "CBS/CCETT Specification" (which the Examiner has withdrawn as a reference) is an instruction which causes a caption to be displayed. Crowther teaches "organizing" signals into an "organized signal," but does not teach "outputting said video presentation to said user based on said organized signal."

3.

Appellants argue with respect to the limitation of "generating an image by processing at least one user specific subscriber datum":

> Although the user selected teletext page number is processed and an image is produced, there is no suggestion that the image is generated

> by processing the selected teletext page number. To the contrary, to the extent that Crowther operates like the Betts system as implied in the Final Office Action, the selected teletext page number is processed only so that the correct page can be written into the memory. The selected teletext page number is not then used to generate the teletext image.

Br. 64.

We agree with Appellants that the selected teletext page number is not processed to generate the teletext image, for the same reasons discussed in the anticipation rejection of claim 187 over Oono. As Appellants point out, the teletext page number input by the user is only used to select one of the teletext pages. The selected page number is not processed to generate an image either at the receiver or at the transmitting station. Although an image is generated from teletext data by converting the binary data into patterns of characters to be displayed on the screen (an image), the appearance of the image is not influenced by processing the user selected page number.

Crowther does not teach "generating an image by processing at least one user specific subscriber datum" or "outputting said video presentation to said user based on said organized signal." Bart is not relied upon for these limitations. The rejection of claim 187, and its dependent claims 188-191 and 193-196, is reversed.

Claims 93-95, 98, 100, 103, and 106-108

Claim 93 is rejected over Crowther and Bart for the same reasons as set forth for claim 187. As discussed in connection with claim 187, we find that Crowther does not teach or suggest "generating an image . . . by

processing at least one user specific subscriber datum." The rejection of claims 93-95, 98, 100, 103, and 106-108 is reversed.

Betts and Bart

Claims 93-95, 98, 100, 103, 106-108, 187, 195, and 196 are rejected under § 103(a) as unpatentable over Betts and Bart.

We reverse.

Betts

Betts describes a computer controlled teletext decoder. Data is received and detected by receiver 1, level slicer 8, and code/parity detector 11. The user can select a certain page number of teletext using control box 21 and upon detection of the desired page the information is fed into the correct addresses in the random access memory 15 (Betts 2, ll. 53-64). The output of the random access memory is sent to a character generator 18, parallel-to-serial converter circuit 19, control box 30, and to the display circuit 6 (*id.* at 2, ll. 22-47).

The rejection

The Examiner finds that Betts discloses an input device 21 for entering a desired teletext page where the claimed "user specific subscriber datum" reads on a user selected teletext page number (Final Rej. 84) and that Betts has circuitry "*for generating* a teletext image by processing the stored user specific subscriber datum that is 'based on' the information entered by the user via input device (21)" (*id.*).

The Examiner finds that the difference between Betts and the subject matter of claim 187 is that Betts does not disclose "a coordinated display using said generated image and said video image" (*id.*). The Examiner finds that Bart discloses that superimposing teletext information on television video was a well-known display mode for teletext (*id.* at 85). The Examiner concludes that it would have been obvious to superimpose teletext data over video in Betts to provide a "coordinated display" in view of Bart (*id.*). The same reasoning is applied to the rejection of claim 93 (*id.* at 94).

Analysis

Claims 187, 195, and 196

Appellants argue that Betts does not teach: (1) a "user specific subscriber datum"; (2) "organizing" discrete signals into an "organized signal"; and (3) "generating an image by processing at least one user specific subscriber datum" (Br. 58-60).

1. & 2.

We conclude that the user input of a requested page number in Betts is "user specific data" and that the teletext signals are "organized" in the RAM for the reasons stated in the claim interpretation section. However, we find that Betts does not teach "outputting said video presentation to said user based on said organized signal" in claim 187 because there is no teaching that the teletext data in Betts is an instruct-to-output signal, as discussed in the obviousness rejection over Crowther.

3.

Appellants argue with respect to "generating an image":

> Not only is the Examiner incorrect in asserting that the selected page number constitutes a user specific subscriber datum, there is no suggestion in Betts that the selected page number is stored and subsequently processed to generate any image using the data stored in RAM (15). The selected page number is used to identify which data to be stored in RAM (15) but is not further processed to generate any image using the data stored in RAM (15). The Examiner asserts that the selected page number is processed to select the desired teletext and that the image generation occurs as a result of this processing. (Advisory Action, p. 40.) The Examiner has failed to consider the actual claim language. The claim does not set forth generation occurring *as a result of processing* a user specific subscriber datum. Rather the claim sets forth generating an image *by processing* the user specific subscriber datum. The Examiner fails to set forth where Betts shows or suggests that the information of the page selection number is actually processed during the generation of an image.

Br. 58-59.

We conclude that an image of a teletext page does not meet the limitation of "generating an image by processing at least one user specific subscriber datum" for the reasons stated in the rejection over Crowther and Bart and for the additional reasons argued above.

Thus, Betts does not teach "generating an image by processing at least one user specific subscriber datum" and "outputting said video presentation to said user based on said organized signal." The rejection of claims 187, 195, and 196 is reversed.

Claims 93-95, 98, 100, 103, and 106-108

Claim 93 is similar to claim 187 except that claim 93 does not recite "outputting" a video presentation "based on said organized signal." The combination of Betts and Bart does not teach Betts "generating an image . . . by processing at least one user specific subscriber datum" in claim 93 for the reasons stated with respect to claim 187. The rejections of claim 93 and its dependent claims 94, 95, 98, 100, 103, and 106-108 are reversed.

Betts, Bart, and Crowther

Dependent claims 188-191, 193, and 194 are rejected under § 103(a) as unpatentable over Betts and Bart, further in view of Crowther. Crowther has the same deficiencies as Betts and Bart, as discussed in the rejection over Crowther and Bart, and so does not cure the deficiencies of Betts and Bart. Thus, the rejection of claims 188-191, 193, and 194 is reversed.

Betts, Bart, and Oono

Dependent claims 102, 109, 192, and 197 are rejected under § 103(a) as unpatentable over Betts and Bart, further in view of Oono. Oono has the same deficiencies as Betts and Bart, as discussed in the rejection over Oono, and so does not cure the deficiencies of Betts and Bart. Thus, the rejection of claims 102, 109, 192, and 197 is reversed.

Kirschner and Bart

Claims 56-58, 60-63, 65-74, and 89-91 are rejected under § 103(a) as unpatentable over Kirschner and Bart.

We reverse.

Kirschner

Kirschner describes a data access system having a plurality of terminals capable of receiving data from a data bank over "barge-in" telephone lines (Kirschner, abstract). A barge-in line is like a party line in that a large number of telephone users may be connected to a selected barge-in line, so a user will have access to data on that line even if other subscribers are also receiving data (*id.*, col. 2, ll. 31-39). The data bank provides data in a closed loop which is continuously circulated (*id.*, col. 3, ll. 16-21). Each terminal may include a number of different application modules, e.g., "[a] 'stock' module may provide the capability of receiving quotations on stock prices" (*id.*, col. 2, ll. 60-62). When the terminal is connected to the selected telephone number, the module program searches for the appropriate data. Data is displayed on a television receiver (*id.*, Fig. 2; col. 3, ll. 51-54).

The rejection

The Examiner finds that Kirschner illustrates a conventional viewdata-type system which allows interactive video terminals to contact and access data in a remote database over a telephone network (Final Rej. 80). The Examiner finds that Kirschner teaches receiving user

specific data (user's request for data from the database), contacting the remote database, receiving data from the remote database, and processing the data to generate a locally generated image (*id.*).

The Examiner finds that Kirschner does not teach simultaneously displaying locally generated text/graphics over television images (*id.*). The Examiner concludes that it would have been obvious to superimpose a locally generated image over a television image in view of Bart, which teaches a multi-mode display, because "it prevented users from missing TV programming of interest when accessing of data from the remote database" (*id.* at 81).

Analysis

1.

Appellants argue that the user selections in Kirschner are not "user specific data" under a proper interpretation of this term because the "data identifying the services to which the user has subscribed is identical for each user that subscribes to the same service" (Br. 52).

We disagree that user selections are not "user specific data" for the reasons discussed in the claim interpretation section.

2.

Appellants argue that there is no suggestion to implement television receivers in Kirschner to have the multi-mode display options in Bart. It is argued that there is no suggestion in Bart to display teletext graphics retrieved over the telephone lines with wholly unrelated conventional

television video and, thus, there is no motivation to combine in the manner suggested by the Examiner proposes (*id.* at 53).

Kirschner teaches display of data from a remote source on a television receiver. One of ordinary skill in the teletext/videotex art knew from Bart (as well as from numerous other references, such as Oono) that teletext receivers commonly have three display modes to display: television images, a teletext image overlaid over a television image, and a teletext image alone. The only difference between Kirschner's videotex receiver and Bart's teletext receiver is that Kirschner receives data over a telephone line and Bart receives data superimposed on the television signal. In both cases, a television is used to display the data. One of ordinary skill in the teletext/videotex art would have appreciated that it would have been obvious to display the data in Kirschner on the television using the same three modes as taught in Bart, because the method of receiving the data has nothing to do with how the data is displayed. We agree with the Examiner that it would have been an obvious modification to one of ordinary skill in the art to display the data from a remote source in Kirschner simultaneously with a television video in view of Bart for the reason stated: the television is used for both data display and television video display and a viewer might want to view the data without missing a television program. Thus, the Examiner has provided an adequate reason for the modification.

3.

However, as discussed in the anticipation rejection of claim 56 over Oono, processing of a user selections to request data does not meet the

limitation of "executing processor instructions to process . . . said user specific data at said video apparatus in order to generate said locally generated image." It is noted that the "stock" module in Kirschner to "provide the capability of receiving quotations on stock prices" (col. 2, ll. 61-62) is read as only allowing a user to receive a stock quotation and not as calculating the value of a stock portfolio as in Hedger and Sedman, discussed *infra*. Accordingly, the rejection of claims 56-58, 60-63, 65-74, and 89-91 is reversed.

Millar and Marti

Claims 80, 81, 84, 85, 87, 183-186, 187-191, 193-196 are rejected under § 103(a) as unpatentable over Millar and Marti.

We reverse.

Millar

Millar describes a teletext transmission system. Data representing alphanumeric information is received from various sources 51 at a transmitter station, stored in data ordering and storage unit 52, and then added to the transmitted video data during the vertical blanking interval (Millar, Fig. 1; col. 3, ll. 22-40).

There are two types of receivers: a first receiver (Fig. 2) has a multiple page store 54 for storing "32 pages of data with 768 characters per page, arranged in 24 32-character rows, pages being selectable at will by the viewer whose receiver is appropriately equipped" (*id.* at 3, ll. 17-22); and a second receiver has a single page store (Fig. 3) in which page selection is

accomplished before storage (*id.* at 4, ll. 24-35). Each receiver has a data separator 53 for separating the data from the video. Pages selected are applied to a ROM (read-only memory) matrix character generator 56, which "produces an output signal of alphanumeric information based on a 7x5 dot matrix . . . to provide the input to the display" (*id.* at 3, ll. 107-110).

Millar describes a circuit for outputting character data (Fig. 5).

Marti

Marti describes a teletext decoder. The user enters a requested page of teletext data on keyboard 19. The selected page is stored in memory 18 and displayed using a character generator 20. The improvement is in the character generator 20. The character generator 20 has three ROMs 34, 35, and 36, for storing information relating to the shape of each character to be displayed in three different alphabets. It is not practical to increase the number of ROMs for reasons of cost (Marti, col. 3, ll. 17-25). Marti describes a changeable memory 37 whose content may be modified depending on the messages transmitted from the teletext system (*id.*, col. 3, ll. 37-44). A new alphabet is recorded in the memory from a page of teletext data where each character is a ten-by-ten matrix (Figs. 2-5).

The rejection

The Examiner finds that Millar discloses a transmitter station and receiver station. The adder in Figure 1 receives video signals and discrete teletext signals and delivers them to a transmitter (not shown) where they are transmitted to a receiver station (Final Rej. 88). The Examiner finds that

Marti provides a more detailed illustration of the same conventional teletext receiver structure in which the user supplies a teletext page number corresponding to "user specific data" to a memory which is used to detect a particular teletext page (*id*. at 89). The Examiner finds that the page store 59 in Millar "organizes" the discrete signals and the ROM character generator is instructed to assemble displayable picture data "in coordination with" the video (*id*. at 90). The Examiner states that the positively recited steps are shown in Millar alone, "whereas the functional descriptions of the receiver side processing are obvious, if not implicit, in the conventional receiver side circuitry that is broadly disclosed/illustrated by Millar et al., as is evident via the more detailed showing of such conventional structure offered by Marti et al." (Ans. 38).

Analysis

Claims 84, 85, 87, and 183-186

Appellants argue that, as to claim 84, Millar does not teach: (1) "user specific data"; (2) "discrete signals" which are organized "to provide said at least one organized signal"; (3) "said at least one organized signal instructs said at least one receiver station to one of generate and output said locally generated image for display coordinated with video"; and (4) a "locally generated image being based on user specific data" (Br. 68-69).

1. & 2.

We conclude that the user input of a requested page number in Millar is "user specific data" and that the teletext signals are "organized" in memory for the reasons stated in the claim interpretation section.

3.

There is no teaching that the teletext data corresponding to the "organized" signal is an instruct-to-generate or an instruct-to-output signal as required in the limitation "said at least one organized signal instructs said at least one receiver station to one of generate and output said locally generated image for display coordinated with video." The teletext data is data to be displayed or which instructs the decoder how to generate the image (e.g., color, flashing, etc.), but does not instruct the decoder to "generate" or "output" the image. The teletext image generated and output automatically by the teletext decoder hardware, not by an instruction signal in the received teletext data. By comparison, the control packet with a reveal bit described in the "CBS/CCETT Specification" (which the Examiner has withdrawn as a reference) is an instruction which causes a caption to be generated and output. Thus, Millar and Marti do not teach "said at least one organized signal instructs said at least one receiver station to one of generate and output said locally generated image for display coordinated with video."

4.

While a teletext image is a "locally generated image," as discussed in the claim interpretation section, the generated image is not "based on" the

user specific data in any clearly definable way. We interpret "based on user specific data" to require that the user specific data influences the appearance of the image, consistent with the interpretation of "generating an image by processing at least one user specific subscriber datum" in claim 187. The user's selection of a particular teletext page in Millar causes the teletext page to be stored, but does not influence the image created from the data. Thus, Millar does not teach a "locally generated image being based on user specific data."

Millar and Marti do not teach or suggest "said at least one organized signal instructs said at least one receiver station to one of generate and output said locally generated image for display coordinated with video" and a "locally generated image being based on user specific data." The rejection of claim 84 and its dependent claims 85, 87, and 183-186 is reversed.

Claims 187-191 and 193-196

Appellants argue with respect to claim 187 that Millar does not teach: (1) a "user specific subscriber datum"; (2) "organizing information" in discrete signals "to provide an organized signal"; (3) "generating an image by processing at least one user specific subscriber datum"; and (4) "outputting a video presentation" comprising "firstly, a video image and, secondly, a coordinated display using said generated image and said video image" (Br. 70-71).

1. & 2.

We conclude that the user input of a requested page number in Millar is a "user specific subscriber datum" and that the teletext signals are "organized" for the reasons stated in the claim interpretation section.

3.

Generating an image of a teletext page which is selected by a user does not meet the limitation of "generating an image by processing at least one user specific subscriber datum" for the reasons stated in the rejection over Crowther and Bart. The appearance of the image is not influenced by the user selection data.

4.

Since the "image" is not generated from the user specific subscriber datum, Millar does not meet the limitation of outputting a "coordinated display using said generated image."

The combination of Millar and Marti does not teach or suggest "generating an image by processing at least one user specific subscriber datum" and outputting a "coordinated display using said generated image." The rejection of claim 187 and its dependent claims 188-191 and 193-196 is reversed.

Claims 80 and 81

Claims 80 and 81 are rejected for the same reasons as stated for claim 84 (Final Rej. 91). In addition, the Examiner states:

> Millar et al. itself explicitly recognized the fact that the embedded information could also be used to convey information from an originating "station" location to intermediate "station" locations and for superimposing routing information onto the video signal at the intermediate station for "effecting automatic executive action relating to the signal routing and monitoring" [e.g. lines 36-47 of page 1].

Id. at 91-92.

Appellants argue that Millar does not teach: (1) "transmitting a signal to said remote intermediate transmitter station, said signal including video and an instruct signal which is operative at said at least one receiver station to instruct said at least one receiver station to at least one of generate and output a locally generated potion of said video presentation based on data specific to a user . . . for display coordinated with said video"; and (2) "transmitting at least one control signal . . . to said remote intermediate transmitter station before a specific time, wherein said at least one control signal is effective at said remote intermediate transmitter station to control communication of said video and said instruct signal to said at least one receiver station" (Br. 72-73).

1.

We find that Millar and Marti do not teach an "instruct signal," as discussed in connection with claim 84.

2.

Appellants argue (*id.* at 73) that the statement about "effecting automatic executive action relating to signal routing and monitoring" in Millar is insufficient to teach a control signal that is "effective at said remote

intermediate transmitter station to control communication of said video and said instruct signal to said at least one receiver station." We agree. Although the claim limitation "to control communication" is broad and could be met by almost any kind of control, the limitation "to control communication of said video and said instruct signal to said at least one receiver station" is not taught because the instruct signal is not taught. Neither Millar nor Marti describe or suggest the "control signal."

Millar and Marti do not teach or suggest the "instruct signal" or the "control signal" which controls communication of the instruct signal. The rejection of claim 80 and its dependent claim 81 is reversed.

Diederich, Germany, and Chambers

Claims 80 and 81 stand rejected under § 103(a) as unpatentable over Diederich, Germany, and Chambers.

We reverse.

Diederich

Diederich has a difficult-to-understand translation, but generally describes insertion of announcements, such as doctor-emergency services, health services, church, culture, and user information (Diederich 2). A remote receiver has a previously prepared program stored on a VCR 6 which is controlled to be turned on by a modulation signal "c" (*id.* at 5).

Germany

Germany describes "a cueing system to facilitate the insertion of local announcements, regional broadcasts, alternative advertisements, and the like

into different programmes" (Germany 1, ll. 11-14). A "cue signal" is included in the television signal where "[e]ach cue signal consists of a burst of a predetermined frequency and a different frequency is employed for each different cue signal" (*id.* at 1, ll. 44-46). A monitoring device detects a cue signal using a tuned circuit which carries out the desired operation on receipt of the correct cue signal (*id.* at 1, ll. 84-88).

Chambers

Chambers describes the British CEEFAX (or Ceefax) (phonetic for "See Facts") teletext service for sending digital data on television signals. Chambers describes that local networks may decode teletext data from national programs and regenerate it as data for regional programs.

The rejection

The Examiner finds that Diederich and Germany teach intermediate transmitters which receive broadcasts from an originating transmitter and then re-transmit portions of the programming to receiver stations, and that both teach at least one "control signal" for causing the TV programming to be retransmitted and causing local programming to be transmitted in place of the national programming (Ans. 41-42).

The Examiner finds that the difference between Diederich and Germany and the subject matter of claim 80 is that claim 80 requires an "instruct signal" in addition to the "control signal" (*id.* at 42). The Examiner finds that Chambers describes embedding teletext data, which the Examiner apparently equates with an "instruct signal," in television programming, and

concludes that one of ordinary skill in the art would have recognized the obviousness of distributing teletext data within the TV distribution systems of Diederich and Germany (*id.* at 43).

Analysis

Appellants argue that Chambers is a brief description of the BBC's CEEFAX teletext distribution system and "there is no suggestion that the CEEFAX system includes an instruct signal operative at a receiver station to generate or output a locally generated portion of a video presentation based on data specific to a user of the receiver station for display coordinated with the video" (Br. 74-75). It is also argued that the Examiner relies on Diederich and Germany to show TV distribution systems using cuing signals, but there is no suggestion that any embedded cue signal is used to control the transmission of an instruct signal (*id.* at 75). It is argued that the Examiner erred in maintaining that it would have been obvious to distribute teletext with the systems of Diederich and Germany because there is no motivation to combine and, even if there was, the combination does not suggest using any control signal in Diederich or Germany to control communication or any instruct signal (*id.* at 75).

Claim 80 does not recite how the "instruct signal" and the "control signal" are transmitted, i.e., it is not claimed that the signals result from organizing discrete signals as in claim 84.

We agree with Appellants that the ordinary teletext data in Chambers is not an "instruct signal which is operative at said at least one receiver station to instruct said at least one receiver station to at least one of generate

and output a locally generated portion of said video presentation based on data specific to a user." Conventional teletext images are generated and output automatically by the teletext decoder hardware, not by an instruct signal in the received teletext data. This is consistent with our discussion of the rejection of claim 84 over Millar and Marti. By comparison, the control packet with a reveal bit described in the "CBS/CCETT Specification" (which the Examiner has withdrawn as a reference) causes a caption to be generated and displayed. Therefore, assuming Diederich and Germany describe "control signals" which control communication of the television signal, the combination with Chambers does not describe a control signal which controls communication of the claimed instruct signal.

The rejection of claim 80 and its dependent claim 81 is reversed.

Conventional TV, Young, Tunmann and Bart

Claim 80 stands rejected under § 103(a) as unpatentable over conventional television configurations and Young and Tunmann and Bart.

We reverse.

Conventional TV

The Examiner finds that in conventional broadcast television, television programs are broadcast from an originating station (such as the network source) to an intermediate station (such as a local station) which rebroadcasts television shows to a plurality of receiver stations.

Young

Young describes automation of small local television stations by programming schedules using pegboard-type programmers and computer-controlled program switchers programmed by IBM-type cards (Young 806). The Examiner relies on the statement that "[f]urther developments are now more likely in the data-handling aspects, such as programing events from network headquarters rather than locally" (*id.* at 806, right col.).

Tunmann

Tunmann describes using a microprocessor to control switching of channels or sources, e.g., selecting from among various satellite signals, and local program selections from a number of sources on a scheduled basis (Tunmann 71). Instructions are entered either locally using a keyboard or remotely using a touch-tone telephone (*id.* at 72-73).

The rejection

The Examiner finds that conventional broadcast television does not teach the claimed "instruct signal" and "control signal." As to the "control signal," the Examiner finds that Young teaches it was desirable to download control signals from the network headquarters to the intermediate stations to control and automate television program switching and that Tunmann evidences that it was known to transmit television schedules to intermediate television stations via a telephone line. As to the "instruct signal," the Examiner finds that conventional teletext transmission include different instruct signals which caused the receiver to locally generate a teletext

image, where the images were necessarily displayed in "coordination" with the video images when the receiver was set to display in a mixed display mode with the teletext superimposed on the video. The Examiner finds that Bart teaches that it was known to display teletext data in a mixed mode. *See* Final Rej. 109-110.

Analysis

Appellants argue that "the Final Office action fails to explain how the prior art shows or suggests a control signal that is effective to control the communication of an instruct signal to a receiver station as set forth by claim 80" (Br. 85). It is argued that the applied art does not suggest an instruct signal operative at the receiver station to instruct the receiver station to generate or output a locally generated portion of the video presentation based on data specific to a user of the receiver station for display coordinated with the video. "The Final Office Action merely asserts that transmitting control signals is old." *Id.*

We find that ordinary teletext data does not constitute "an instruct signal which is operative at said at least one receiver station to instruct said at least one receiver station to at least one of generate and output a locally generated portion of said video presentation based on data specific to a user of said receiver station for display coordinated with said video," as recited in claim 80. None of the conventional teletext data signals of which we are aware instruct the page to be generated or displayed; these functions are automatically performed by the decoder. By comparison, the control packet with a reveal bit described in the "CBS/CCETT Specification" (which the

Examiner has withdrawn as a reference) is an instruction which causes a caption to be displayed. Therefore, even if Young and Tunmann describe a control signal, they do not suggest a control signal effective "to control communication of said video and said instruct signal" because the instruct signal is not taught or suggested.

The rejection of claim 80 is reversed.

Hedger and Sedman and either Yoshino or Bart

Claims 56-58, 60-63, 65, 66, 73, 89-91, 93-95, 98, 100, 102, 103, 106-109, and 187-197 stand rejected under § 103(a) as unpatentable over Hedger and Sedman and either one of Yoshino or Bart.

We affirm-in-part.

Hedger

Hedger describes turning a teletext decoder into a home microcomputer that can be used for entertainment, information, and education.

Hedger describes that there are several possible ways to load programs into the microcomputer (Hedger 557-558): read-only-memory (ROM); audio cassettes; a "dial-up network based on the public switched telephone system, where customers phone a program supply service (a private company or a public utility) which then transmits a copy of the required program down the telephone" (*id.* at 557-558), where a "program dial-up service is in pilot operation in the UK, using pages in the Prestel

viewdata service" (*id*. at 558); and by broadcast on the normal television signal, teletext.

Programs can be distributed by "telesoftware," teletext that is software. Program applications include self-assessment programs, educational programs, games, and database manipulation (*id*. at 558-559). One relevant telesoftware program application manipulates information:

> Alternatively, by making the details of his shares portfolio known to the telesoftware program (possibly by loading it from a cassette recorder) the viewer could then use the program to access the stock market pages of teletext and compute the rise (or fall!) in the value of the portfolio.

Id. at 564.

Hedger describes subtitling as another information manipulation program. Subtitles (also called "closed captioning" because the captions are not seen by everyone)[4] are "broadcast as pages in the teletext service, received by a normal teletext receiver, and displayed at the foot of the television picture. Only viewers who select the subtitling facility on their receivers will have them displayed, other viewers may not even be aware that the subtitles exist." *Id*.

[4] Closed captioning was very new at the time. According to the National Captioning Institute, the first closed captioning broadcast took place on March 16, 1980. *See* A Brief History of Captioned Television at "http://www.ncicap.org/caphist.asp."

Sedman

Sedman discusses that Prestel viewdata[5] used terminals containing general-purpose, programmable microprocessors, so "it is possible to process the data that is received, rather than just to display it, and it is also possible to reprogram the device to perform different functions" (Sedman 400). One way to get programs into the device is to use the telephone network to distribute programs (software) in addition to data. "This is the principle of telesoftware: the distribution of software via a communication medium, in this case the telephone." *Id.*

Sedman describes MicroCobol, a programming language designed to be used over a wide range of machines, for writing telesoftware.

Sedman describe one telesoftware application as follows:

> Much of the data that is already on Prestel would be of greater value if it were possible to perform calculations directly on it. For example, it would be possible to calculate the current value of a portfolio of shares by accessing the stock exchange prices of each.

Id. at 406.

Yoshino

Yoshino describes an electronic calculator which displays calculations superimposed on the video on a television screen.

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[5] Viewdata was a two-way interactive service for information retrieval using the telephone network. "Prestel" was the brand name for the United Kingdom Post Office's viewdata technology.

The rejection

The Examiner finds that claim 56 differs from Hedger only in that claim 56 requires: (1) a remote data source is contacted to obtain the latest stock prices; and (2) the locally generated image is displayed simultaneously with the video (Final Rej. 74). The Examiner finds that Sedman describes obtaining stock prices from a remote data source and concludes that it would have been obvious to obtain stock prices from a remote data source in Hedger in view of this express teaching in Sedman (*id*. at 75). The Examiner also finds that Yoshino and Bart describe displaying computer generated data superimposed on television video and concludes that it would have been obvious to superimpose data in Hedger in view of Yoshino and Bart "thereby avoiding the need to interrupt the viewing of the TV programming when viewing outputs from the computer" (*id*. at 76).

Analysis

Claim 56

Appellants raise three issues.

1.

Issue 1: Did motivation exist to add the "two-way" data transmission of Sedman to the "one-way" system of Hedger?

Appellants argue that "[t]here is simply no suggestion or motivation to add the 'two-way' data transmission of Sedman to the Hedger system" (Br. 42). It is argued that Hedger teaches away from sending any

information to a central computer in the manner of Sedman for reasons of maintaining confidentiality of information (Br. 42-43; Reply Br. 30-31).

We agree with the Examiner that one of ordinary skill in the teletext/videotex art would have been motivated to request stock market data from a remote source in Hedger instead of finding it in the teletext data in view of the express teachings in Sedman that stock market data can be retrieved from a remote database. That is, retrieval of information from a remote source was a known alternative in the art to the one-way technique. Hedger itself expressly describes a "dial-up network based on the public switched telephone system" (Hedger 557) as an alternative to one-way teletext. Both Hedger and Sedman are computer-based information services and one of ordinary skill in the related teletext/viewdata arts would have been motivated to use techniques in one-way teletext with two-way viewdata and vice versa for their known advantages. Hedger is applied as the main reference because it teaches teletext data superimposed on television and because all of the claims all require video. A reference "teaches away" when it states that something cannot be done. *See In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Hedger does not indicate that two-way communication cannot be done—only that it has some drawbacks—in fact, Hedger expressly teaches two-way communication as an alternative to teletext (Hedger 557-558).

Motivation existed to add the "two-way" data transmission of Sedman to the "one-way" system of Hedger.

2.

Issue 2: Did a motivation or suggestion exist to modify the decoder in Hedger to display a locally generated image superimposed on a television image in view of Yoshino or Bart?

Appellants argue the "Final Office Action includes no objective reason why a person of ordinary skill would combine the step of executing processor instructions to process remotely originated data and user specific data in order to generate a locally generated image with the step of simultaneously displaying the locally generated image and an image received from a remote video source" (Br. 43). It is argued that neither reference suggests these steps (*id.* at 44) or provides a motivation to combine (Reply Br. 31).

Initially, it is noted that the last step of "simultaneously displaying said locally generated image and said image received from said remote video source at said video output device" does not require any coordination between information in the locally generated image and the image received from the remote video source. The step merely requires that the images are simultaneously displayed. *See* Ans. 33 n.4.

We agree with the Examiner that it would have been obvious to one of ordinary skill in the teletext art to display computer data superimposed on television video in view of Yoshino or Bart. Hedger has to display the results of the stock market calculations (a locally generated image) and the display device for the teletext decoder/computer is a television (Hedger 556). Yoshino describes displaying the television program and the results of a computing process simultaneously (Yoshino 4, ll. 110-113),

which provides a motivation or a suggestion to modify the decoder in Hedger to display the calculations simultaneously with the television program. Likewise, Bart teaches that a "color television receiver, for example, can be arranged to display either normal video information alone in a conventional manner, graphics information along (e.g., 'video games' or alphanumeric data displays), or mixed video and graphics information (e.g., superimposed subtitles, weather, sports or road traffic information" (Bart, col. 1, ll. 12-18), which provides a motivation or suggestion for the decoder in Hedger to display the calculations simultaneously with the television program. Since Hedger describes a teletext decoder, and since teletext decoders commonly have three selectable display modes (video alone, teletext data alone, and teletext data superimposed on video), as evidenced by Bart, one of ordinary skill in the teletext/videotex art would understand that the Hedger decoder would probably normally include these display modes although they are not described because they are not relevant to the discussion. In any case, Bart would have motivated one skilled in the teletext/videotex decoder art to modify the Hedger decoder to provide for superimposing data over the television video. We also agree with the Examiner, that one skilled in the art would have been motivated to displaying the results of the calculation and the video simultaneously to "avoid[] the need to interrupt the viewing of the TV programming when viewing outputs from the computer," which reasoning Appellants do not address.

A motivation or suggestion existed for one with ordinary skill in the art to modify the decoder in Hedger to display a locally generated image superimposed on a television image in view of Yoshino or Bart.

3.

Issue 3: Do the references teach or suggest processing remotely originated data and user specific data to generate a locally generated image?

Appellants argue that the Examiner erred in interpreting "locally generated" images to read on images of videotex because "videotex images were generated remotely at videotex editing terminals and merely reproduced at local stations" (Br. 44).

The argument is not relevant here because the rejection does not rely on teletext as the locally generated image. Furthermore, as discussed in the claim interpretation section in connection with the "locally generated" limitation, teletext information is generated remotely, but the teletext image (what will be seen by the user) is generated locally at the machine by, for example, character generators.

Appellants argue that "the claim requires that the locally generated image is generated by processing remotely originated data *and* user specific data. The secondary references fail to show or suggest such an image." *Id.*

Hedger processes stock market data using user specific data (the user's stock portfolio) and remotely originated data (albeit transmitted as teletext pages as opposed to in response to contacting a remote source) to compute the value of the user's portfolio. The results of these local calculations must be displayed to the user, so there must be a locally generated image, which

could be a text image, such as a list or table of stock values. As discussed in the first section, it would have been obvious to contact a remote source to obtain the stock data instead of using teletext in view of Sedman.

The references suggest processing remotely originated data and user specific data to generate a locally generated image.

For these reasons, the rejection of claim 56 is affirmed. The rejections of claims 63, 73, 89, and 90 are not separately argued. Accordingly, the rejections of claims 63, 73, 89, and 90 are affirmed.

Claim 57

Claim 57 recites the method of claim 56 "further comprising the step of programming said video apparatus to perform any one of said steps of contacting, receiving said remotely originated data, and displaying."

Appellants argue that "there is no teaching in Hedger that the telesoftware performs any of the steps recited in claim 57" (Br. 45) and "the Examiner proposed no modifications to Hedger to arrive at the invention including the limitations set forth in claim 57" (*id.*).

The rejection is based on Hedger and Sedman in view of either Yoshino or Bart. Sedman teaches a computer associated with a television receiver which is programmed to contact a remote source to request data and to receive the remotely originated data. This teaching of Sedman was relied upon in the rejection of claim 56. Accordingly, claim 57 would have been obvious over the combination of references applied to claim 56.

The rejection of claim 57 is affirmed.

Claim 58

Claim 58 recites the method of claim 56 further comprising a step of programming the video apparatus to perform the step of displaying, the step of programming comprising the steps of "storing at least one processor instruction in said computer; detecting an instruct signal received at said video apparatus; and executing said at least one processor instruction in response to said instruct signal."

The Examiner states that some type of instruction must be given to the microcomputer in Hedger to cause the downloaded telesoftware to execute to calculate the value of the portfolio because "certainly the calculation is not performed randomly at some arbitrary time" (Final Rej. 76).

Appellants argue that the claim limitation is directed to programming the apparatus to perform the step of displaying, not calculating a portfolio value as stated by the Examiner (Br. 45). Appellants also argue that there is no teaching of any "instruct signal" in Hedger and Hedger does not provide any details of the specific manner of operation of the telesoftware (*id.*).

Since the preamble of claim 58 recites "the step of programming said video apparatus to perform said step of displaying, said step of programming comprises the steps of," we interpret the "instruct signal" to be an instruct-to-display signal and the step of "executing said at least one processor instruction in response to said instruct signal" to cause displaying even though the limitations do not say "displaying."

Hedger does not discuss displaying, but the computer in Hedger must inherently be programmed with at least one processor instruction that causes displaying the results of the calculations of the stock portfolio program or

the program would be of no practical use. Claim 58 recites that the processor instruction is executed in response to "detecting an instruct signal received at said video apparatus." We interpret "received at said video apparatus" to include both received from a remote source, such as an instruct-to-output instruction transmitted with the "Wall Street Week" television program, and received locally from the user, that is, an input by the user causing the calculation to be output, which is consistent with the step of "receiving said user specific data at said video apparatus" including a local input. One of ordinary skill in the computer art would have considered it obvious to receive the instruct-to-display signal from the user in Hedger since it was (and is) common in computer programs for the user to control the display of output (perhaps in response to a "calculate-and-display results" input .[6]

The rejection of claim 58 is affirmed.

Claim 60 and 61

Claim 60 recites the method of claim 56 "further comprising processing an identifier." Claim 61 recites that the identifier identifies at least one of "a television program; a communications resource; and said locally generated image."

The Examiner states:

> With respect to claims 60-62, it is noted that the receiver must receive and process many types of identifiers in order to perform the

[6] If the claim recited receiving the instruct signal from a remote source, then a reference would be required because this is not common.

> described operations, such as: identifiers identifying the types of stocks owned in the portfolio; a TV channel selection identifier for causing the tuner of the TV receiver to select the TV programming that is to be viewed; page and packet identifiers for identifying the data transmitted to the receiver from the remote source, etc, . . .

Final Rej. 76. The Examiner further states that combination implicitly comprises various identifiers:

> For example, in order to contact the videotex service provider via the two-way telephone connection as required of the modified system of Hedger, the receiver station of said system must be programmed with various "communication resource" identifiers such as the service provider's telephone number.

Advisory Action 34.

Appellants argue that "the telesoftware receiver of Hedger need not receive an identifier that identifies a television program, a communications resource, or a locally generated image" (Br. 46) and "Hedger does not show or suggest contacting any service provider by way of a two-way telephone connection" (*id.*).

The rejection is based on the combination of Hedger with Sedman. The two-way system of Sedman necessarily requires processing an "identifier," which as broadly construed can be the telephone number of the remote data source in Sedman, which is a "communications resource" identifier as recited in claim 61. Sedman also describes that the "date and time provided by Prestel give a unique identifier for the program" (Sedman 404) where the program is also considered a "communications resource."

The rejection of claims 60 and 61 is affirmed.

Claim 62

Claim 62 recites that the identifier is received "from one of said remote video source and said remote data source."

Appellants argue that there is no suggestion that the receiver in Hedger receives an identifier from either a remote video source or a remote data source (Br. 46).

The identifier in Sedman, discussed in connection with claim 61, is received from the remote data source (Prestel).

The rejection of claim 62 is affirmed.

Claim 65 and 66

Claim 65 recites "organizing" information in first and second discrete signals to enable the video apparatus to process an "organized signal," and causing the computer to respond to the organized signal. Claim 66 recites that the step of organizing is controlled by the processor.

The Examiner states that the downloaded telesoftware in Hedger "inherently comprised discrete signals which had to be received and organized by the microcomputer prior to execution thereof" (Final Rej. 77).

Appellants argue that the rejection fails to explain how Hedger inherently discloses organizing discrete signals. It is argued that "[t[here is no suggestion in Hedger that a selected page of teletext character data is stored in a page store other than in the order it is received" (Br. 47), the receiver does not require the use of a pattern to arrange the received data,

and "[a]ll that is required for the Hedger system to recognize the teletext as telesoftware is for the microprocessor to scan the page of data for a special sequence of characters" (*id.*).

We find that teletext/videotex receivers "organize" discrete signals into "organized signals" for the reasons discussed in the claim interpretation section. The series of bits in teletext/videotex signals are "discrete signals" and must be properly "organized" into an "organized signal" representing bytes of data or computer instructions, e.g., by being aligned in memory. If not, the computer would take bits from arbitrary bytes of data or instructions, which would be meaningless.

The rejection of claims 65 and 66 is affirmed.

Claim 91

Claim 91 recites the method of claim 56, wherein the video apparatus includes an audio receiver, and the steps of receiving "audio which describes information displayed in said video presentation; and outputting said audio at said video apparatus before ceasing to display said locally generated image."

The Examiner states:

> With respect to claim 91, it is noted that TV programming comprises an[] audio component that is continuously outputted from the TV receiver with the TV programming . . .; i.e. before, during, and after any overlay that may be overlaid thereon. Further, the audio component of a TV program necessarily describes, in words, information that is contained within the video portion [.i.e. even when the audio pertains to an interview between two people (i.e. "This is Mr. Jones"; etc, . . .).

Advisory Action 35.

Appellants argue that the Examiner's assertions are insufficient to render claim 91 obvious, and "[t]he Examiner has provided no showing or suggestion of audio that describes information in a video presentation including a locally generated image as set forth by claim 56. There is no showing or suggestion to output audio before ceasing to display locally generated video" (Br. 47-48).

Apparently, claim 91 is directed to the "Wall Street Week" scenario where the host says, "And here is what your portfolio did," after which the video presentation of the user's portfolio performance is superimposed on the stock market graphic in the television signal (Spec. 25-26). We agree with the Examiner that the audio portion of a television program often, although not always, describes (at least indirectly) what is happening in the video. However, claim 91 recites that the "audio . . . describes information displayed in said video presentation" and claim 56 defines a "video presentation comprising a locally generated image and an image received from a remote video source." Television audio does not describe information in a video presentation that includes a locally generated image, but at most describes the television video.

The rejection of claim 91 is reversed.

Claim 93

The Examiner finds that the receiver of Hedger performs the steps of receiving, detecting, passing signals to a processor, organizing information

in the signals, and generating an image (Final Rej. 78). The Examiner relies on the reasoning set forth for claims 56 *et seq*. in which the Examiner concluded that it would have been obvious to display the result of the calculations in Hedger as an overlay on the television video in view of the teachings of either Bart or Yoshino (*id*. at 76). The Examiner states that whenever image data is overlaid or inset into a displayed video signal, the timing must be "coordinated" with the raster scanning of the displayed video signal by synchronizing horizontal and vertical frequencies (*id*. at 78).

Appellants argue that the Final Rejection does not make any finding of the differences in claim 93 over the applied references, proposes no modifications to the applied references to arrive at the claimed subject matter, and includes no explanation why one of ordinary skill would have been motivated to make any modification; thus, the Final Rejection fails to establish a prima facie case of obviousness (Br. 48).

We disagree. The rejection points out that the teletext data signals are "organized" into "organized signals" which are telesoftware, i.e., computer instructions. These computer instructions are part of an application program used to generate and output the image of the stock portfolio data. It is noted that claim 93 does not recite contacting a remote data source and receiving data from a remote data source as in claim 56, so the reference to Sedman is not required for claim 93 (but it is required for claim 102). The rejection also addresses outputting a coordinated display. We look to Appellants' arguments to determine whether the rejection is sustainable.

Appellants argue that the Examiner's assertion that whenever generated image data is overlaid into a displayed video signal the timing of

the display must be "coordinated" with raster scanning is insufficient to render claim 93 unpatentable (Br. 48). It is argued that there is no suggestion in the applied art that any image generated by processing a user specific subscriber datum is overlaid/inset into a displayed video signal (*id.* at 49). It is further argued that the timing of the displayed image in Yoshino and Bart need not be coordinated with the displayed video signal as set forth in claim 93 and "synchronization has no bearing on which frames of the underlying video the overlay is displayed upon" (*id.*). Appellants argue that "[i]n the Advisory Action at page 36, the Examiner appears to suggest that the value of the portfolio calculated in Hedger could be overlaid over received TV programming in a spatially coordinated fashion" (*id.*), but this is not taught by Hedger, Yoshino, or Bart (*id.*). It is argued that a coordinated display is disclosed to be overlaying the user's stock performance over a graph of the Dow Jones Industrials, whereas "[t]he television program and the computing process of Yoshino are merely displayed simultaneously. Yoshino makes no suggestion that there is any relationship between the television program and the computing process that would result in a coordinated display." Reply Br. 33.

Based on Appellants' arguments, the sole issue is: Does the combination of references teach or suggest "outputting said video presentation . . . comprising . . . *a coordinated display using said generated image and said video image*"?

The first step is to interpret "a coordinated display using said generated image and said video image." The Examiner interprets a "coordinated display using" to only require that the generated image (stock

performance in Hedger) and the television video image are in a certain relationship, such as generated image being superimposed on the video image in a certain place, for which the rejection relies on the teachings of Yoshino or Bart. When the Examiner refers to calculated information overlaid on television images "in a spatially 'coordinated' fashion" (Advisory Action 36), we interpret this to just mean that the information is displayed in a certain portion of the screen with the television video in the background. Appellants impliedly interpret the limitation to require that the information contents of the "generated image" and the "video image" are in a certain relationship, such as a graph generated from user specific information overlaid over a graph in a television video frame as in Appellants' Figure 1C rather than just any video. When Appellants argue that the references do not teach display in a "spatially coordinated fashion," we interpret this to mean that the generated image is not spatially positioned to overlay a video image as in Figure 1C.

We agree with the Examiner's interpretation. Claim 93 does not define the "coordinated display" as requiring more than "using" the two images, i.e., it is the display that is coordinated, not the display of the generated image with the display of the video image. Thus, Appellants have shown no reversible error in the Examiner's conclusion that superimposing a generated image on any video image teaches a "coordinated display using" the images. "[D]uring patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed." *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989).

The rejection of claim 93 is affirmed.

Claims dependent on claim 93

Appellants argue that the Examiner has not established a prima facie case of obviousness because "[t]he Examiner fails to explain how the applied prior art renders obvious the limitations of claims 94, 95, 98, 100, 102, 103 and 106-109 which include the following limitations" (Br. 50), after which Appellants list the claim limitations.

The Examiner relies on the reasons set forth for the rejection of claim 93 (Final Rej. 79).

We do not find any Examiner discussion of a "third discrete signal" as recited in claims 94, 103, and 106. Thus, the rejections of claims 94, 95, 98, 103, and 106 are reversed.

Claim 100 recites receiving at least one user specific subscriber datum and passing it to a storage device. This limitation is met by the user entering and storing the stock portfolio data in Hedger. The rejection of claim 100 is affirmed.

Claim 102 recites contacting a remote station to obtain the user specific subscriber datum. This limitation is met by Sedman. The rejection of claim 102 is affirmed.

Claim 107 recites that the video image is received in one of a television and a multichannel information transmission. Claim 108 recites that these comprise an analog television signal. The video images in Hedger and Yoshino and Bart are received in an analog television transmission. The rejection of claims 107 and 108 are affirmed.

Claim 109 recites, *inter alia*, that "said video presentation comprises a series of computer generated video display outputs, and wherein by processing said at least one user specific subscriber datum said at least one processor delivers said generated image at said video monitor in one of said series of computer generated display outputs." The Examiner does not indicate, nor is it readily apparent, where this limitation is taught or suggested. The rejection of claim 109 is reversed.

Claims 187-197

Appellants argue that "the applied art fails to suggest at least the combination of steps of generating an image by processing a user specific subscriber datum and outputting a video presentation comprising a video image and a coordinated display using the generated image and the video image as set forth by claim 187" (Br. 51).

We affirm the rejection of claim 187 for the reasons stated with respect to claim 93. We affirm the rejection of claims 191, 192, 195, and 196 for the reasons stated with respect to claims 100, 102, 107, and 108, respectively. We reverse the rejection of claims 188-190, 193, 194, and 197 for the reasons stated with respect to claims 94, 95, 98, 103, 106, and 109, respectively.

Oono and Zworykin

Claim 73 stands rejected under § 103(a) as unpatentable over Oono and Zworykin.

Claim 73 depends on claim 56 and recites that "said video apparatus receives encrypted video from said remote video source."

Zworykin is directed to a secret television system in which signals are distorted at the transmitter and where the distortion is removed at properly configured receivers. Zworykin does not cure the deficiencies of Oono. Thus, the rejection of claim 73 is reversed.

Obviousness-type double patenting

Claims 56-58, 60-63, 65-74, 89-91, 93-95, 98, 100, 102, and 187-197 stand rejected under the judicially created doctrine of obviousness-type double patenting over claims 9-13 of U.S. Patent 4,694,490.

We reverse.

The rejection

The Examiner notes that because Appellants assert that the rejected claims are entitled to the 1981 filing date of the '490 patent, the rejected claims find support in the same "Wall Street Week" embodiment (Final Rej. 126). The Examiner concludes that claims 9-13 of the '490 patent are drafted in means-plus-function format and when the "means" terms are interpreted under 35 U.S.C. § 112 ¶ 6, "it seems apparent that the 'means' of these claims encompass all of the disclosed receiver side structure and processing thereof (and equivalents thereof)" (*id.* at 127). The Examiner

concludes that because the claims find support in the same "Wall Street Week" embodiment in the '490 patent

> [the rejected claims of] the instant application cannot be patently distinct from the "means" recited in claims 9-13 of US Patent #4,694,490 given the above. That is, while claims 56-58, 60-63, 65-74, 89-91, 93-95, 98, 100, 102 and 187-197 of the instant application positively recite steps which are not explicitly recited in claims 9-13 of US Patent #4,694,490, it appears that these recited steps are implicit in the recited "means" of the patented claims given the limited 1981 disclosures.

Id. at 127-128.

Analysis

Appellants argue that the Examiner fails to identify any differences between the pending claims and the claims in the '490 patent and fails to provide reasons why a person of ordinary skill in the art would have concluded that the pending claims are obvious variations of the invention claimed in the '490 patent (Br. 88). It is argued that the Examiner recognizes that the rejected claims recite limitations not found in the '490 patent claims and errs in concluding that the limitations are implicit in the '490 patent claims (*id.* at 90). It is argued that "the Examiner improperly reads entire functions from the specification into the claims of the '490 patent" (*id.*) using the means-plus-function interpretation. Appellants argue that none of claims 9-13 of the '490 patent explicitly or implicitly include the steps of contacting a remote data source and receiving remotely originated data as in claim 56, or organizing information included in a first discrete signal with information

in a second discrete signal to provide an organized signal as recited in claims 93 and 187 (*id.* at 90-91).

We agree with Appellants that the Examiner has failed to present a prima facie case of obviousness-type double patenting. The Examiner has not made any findings of the differences between the rejected claims and the claims of the '490 patent and has not stated why such differences are implicit. A means-plus-function limitation is limited to the recited function and implied functions will not be read into the claims. Appellants point to at least one difference in each independent claim that is not taught in claims 9-13 of the '490 patent and we agree that these limitations have not been demonstrated to have been obvious.

The obviousness-type double patenting rejection of claims 56-58, 60-63, 65-74, 89-91, 93-95, 98, 100, 102, and 187-197 is reversed.

CONCLUSION

The rejection of claims 56-58, 60-63, 65-74, 80, 81, 84, 85, 87, 89-91, 183-186) under 35 U.S.C. § 112 ¶ 2 is reversed.

The rejection of claims 56-58, 60-63, 65-72, 74, 93-95, 100, 102, 103, 106-109, 187-189, and 191-197 under 35 U.S.C. § 102(b) as anticipated by Oono is reversed.

The rejection of claims 93-95, 98, 100, 103, 106-108, 187-191, 193-196 under § 103(a) over Crowther and Bart is reversed.

The rejection of claims 93-95, 98, 100, 103, 106-108, 187, 195, and 196 under § 103(a) over Betts and Bart is reversed.

The rejection of claims 188-191, 193, and 194 under § 103(a) over Betts and Bart, further in view of Crowther is reversed.

The rejection of claims 102, 109, 192, and 197 under § 103(a) over Betts and Bart, further in view of Oono is reversed.

The rejection of claims 56-58, 60-63, 65-74, and 89-91 under § 103(a) over Kirschner and Bart is reversed.

The rejection of claims 80, 81, 84, 85, 87, 183-186, 187-191, 193-196 under § 103(a) over Millar and Marti is reversed.

The rejection of claims 80 and 81 under § 103(a) over Diederich, Germany, and Chambers is reversed.

The rejection of claim 80 under § 103(a) over conventional television configurations and Young and Tunmann and Bart is reversed.

The rejection of claims 56, 57, 58, 60-63, 65, 66, 73, 89, 90, 93, 100, 102, 107, 108, 187, 191, 192, 195, and 196 under § 103(a) over Hedger and Sedman and either one of Yoshino or Bart is affirmed.

The rejection of claims 91, 94, 95, 98, 103, 106, 109, 188-190, 193, 194, and 197 over Hedger and Sedman and either one of Yoshino or Bart is reversed.

The rejection of claim 73 under § 103(a) over Oono and Zworykin is reversed.

Summary: The rejection of claims 56, 57, 58, 60-63, 65, 66, 73, 89, 90, 93, 100, 102, 107, 108, 187, 191, 192, 195, and 196 under § 103(a) over Hedger and Sedman and either one of Yoshino or Bart is affirmed. All other rejections of the claims have been reversed.

The obviousness-type double patenting rejection of claims 56-58, 60-63, 65-74, 89-91, 93-95, 98, 100, 102, and 187-197 is reversed.

Requests for extensions of time are governed by 37 C.F.R. § 1.136(b). *See* 37 C.F.R. § 41.50(f).

AFFIRMED-IN-PART

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